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DEPARTMENT OF COMMERCE

BUREAU OF FISHERIES

HUGH M. SMITH, Commissioner

AN ANALYTICAL SUBJECT BIBLIOGRAPHY OF THE
PUBLICATIONS OF THE BUREAU OF FISHERIES
1871-1920

By ROSE M. E. MACDONALD
Librarian, U. S. Bureau of Fisheries

APPENDIX V TO THE REPORT OF THE U. S. COMMISSIONER
OF FISHERIES FOR 1920



Bureau of Fisheries Document No. 899

PRICE, 35 CENTS

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LETTER OF TRANSMITTAL.

DEPARTMENT OF COMMERCE,
BUREAU OF FISHERIES,
Washington, June 15, 1920.

Hon. HUGH M. SMITH,
Commissioner of Fisheries.

DEAR SIR: I have the honor to submit herewith "An Analytical Subject Bibliography of the Publications of the Bureau of Fisheries, 1871-1920," being an analysis of the reports, appendixes, special papers, bulletins, economic circulars, occasional papers, and of "The Fisheries and Fishery Industries."

Covering the investigations of the Bureau since its incipency, it shows, in a measure, the work of a number of men of no mean fame in the field of biology. Much of it was pioneer work, which modern investigators can not afford to ignore.

The work here transmitted was started in 1912, as a catalogue of the publications of the Bureau. Later it was decided to assemble these titles under subjects pertinent to the work of the Bureau.

In compiling this subject index it was found that references to many valuable results would be lost unless a meticulous analysis of the publications be made. Each paper was therefore examined searchingly, and when the discussion was found to be of sufficient detail, a title for it was made. For instance, of the 141 titles of *Food of fishes*, 87 were made from the subject contents.

It had long been realized and often stated by those cognizant of the ideals of the Bureau that there was a veritable fund of valuable information in the publications of the Bureau, which was lost because the modern investigator knew not how to find it. It is hoped that this work will prove a valuable key.

The arrangement differs from that usually employed in bibliographies, the object having been to arrange it from the viewpoint of the investigator. Into a work of such detail, the preparation of which has necessarily extended over several years, some mistakes will doubtless appear. For these I am quite willing to assume responsibility, knowing that a bibliography of such magnitude can not be perfect.

In its entirety it stands as a slight tribute to the builders of the Bureau of Fisheries and to all who have labored with them. It has been a pleasure and an inspiration to do the work, and I hope it may prove of value. I have the honor to be,

Very respectfully,

ROSE M. E. MACDONALD, *Librarian.*

AN ANALYTICAL SUBJECT BIBLIOGRAPHY OF THE PUBLICATIONS OF THE BUREAU OF FISHERIES, 1871-1920.

By ROSE M. E. MACDONALD, *Librarian.*

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^a Analytical subject table of contents is given with each part, except in parts 3 and 6, where it is given with each section.

EXPLANATORY NOTE.

The bibliography is composed of two styles of titles, those given just as they appear in the publications and those resulting from the analysis of each article. For the first style, cards have been printed by the Library of Congress from copy prepared in this Bureau. These cards may be purchased from the Library of Congress, the card wanted to be designated by the call number, which appears in the right-hand margin of each page. The second style, or "made titles," are designated by brackets and have no printed cards.

The arrangement under each subject is by authors listed alphabetically. The arrangement under each author is chronological.

Work or investigations covered in the annual report of the Commissioner are combined under the authorship of the United States Commissioner of Fisheries. To give the name of the Commissioner sponsoring the work would frequently destroy the chronological arrangement. For those who may care to cite the Commissioner's name the following list is given:

Baird, Spencer Fullerton, 1871-1887.

Goode, G. Brown, 1887-1888.

McDonald, Marshall, 1888-1895.

Gill, Herbert A. (acting), 1895-1896.

Brice, John J., 1896-1898.

Bowers, George M., 1898-1913.

Smith, Hugh M., 1913-

For the purpose of chronological arrangement, divisional reports are given under the authorship of the United States Bureau of Fisheries.

In analyzing reports (meaning also appendixes and special papers) and bulletins, the analysis in each case has been of the bound volume, and the date of issue given for each title is therefore that of the volume. In the majority of cases, however, the articles comprising the bound volume are first issued as separates. In all such instances, in addition to the date of issue of the volume, the date of issue of the article as a separate is given in italics. The one exception is in the treatment of the annual reports, page 7, where the date of issue of the separate only is given.

Being an analysis of publications of the Bureau of Fisheries only, which are always printed in Washington and, with few exceptions, by the Government Printing Office, the place of publication is omitted in every case, and the printer given only in the exceptions.

Part 1.—UNITED STATES BUREAU OF FISHERIES.

Part 1.—UNITED STATES BUREAU OF FISHERIES.

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^a For "Fish-cultural stations" and "Cars" see Part 3, Section 2. For "Vessels" see Part 2.

PART 1.—UNITED STATES BUREAU OF FISHERIES.

HISTORY.

- Brice, John J.:** The work of the United States Fish commission from December 1, 1896, to November 3, 1897. Bulletin, 1897 (1898), vol. XVII, p. 135-139. *Doc. 354 issued Feb. 4, 1898.* F12-243
- Goode, George Brown:** The first decade of the United States Fish commission, its plan of work and accomplished results, scientific and economical. Report, 1880 (1883), p. 53-62. F16-23
- *Ibid.* Bulletin, 1881 (1883), vol. II, p. 169-178. F12-356
- Smiley, Charles Wesley:** Four tables, showing the amount of public money appropriated for carrying on the United States Commission of fisheries, and the various State commissions, from 1865 to 1882, inclusive. Bulletin, 1883 (1883), vol. III, p. 140-152. F18-122
- The organization and personnel of the United States Fish commission, June 1, 1883. Bulletin, 1883 (1883), vol. III, p. 115-116. F18-117
- Smith, Hugh M.:** The United States Bureau of fisheries, its establishment, functions, organization, operations, and achievements. 80 p., front. (ports), illus. *Doc. 641 issued September, 1908.* 8-35683
- U. S. Bureau of Fisheries:** Directory of officers, collaborators, employees, etc., of the Smithsonian institution, National museum, Geological survey, and Fish commission. 8 p. *Doc. 39 issued June, 1882.* F14-134
- U. S. Commission of fish and fisheries. Laws and regulations. 32 p. *Doc. 49 issued June 26, 1882.* F12-240
- [Origin and functions.] Printed for distribution at the Lewis and Clark centennial exposition, Portland, Oregon, 1905, by the U. S. Department of commerce and labor, section of the Bureau of fisheries. 6 p., illus.
- [Origin and functions.] Printed for distribution at the Ter-Centennial Exposition, near Norfolk, Va., 1907, by the U. S. Bureau of fisheries. 1907. 10 p.; illus.

ANNUAL REPORTS.

- U. S. Commissioner of Fisheries:** Annual report, 1871 and 1872, *Doc. 3 issued 1873*, 1872 and 1873, *Doc. 4 issued 1874*; 1873-74 and 1874-75, *Doc. 15 issued July 24, 1876*; 1875 and 1876, *Doc. 17 issued 1879*; 1877, *Doc. 25 issued Oct. 17, 1879*; 1878; *Doc. 28, issued 1880*; 1879, *Doc. 46 issued June, 1882*; 1880, *Doc. 62 issued 1883*; 1881, *Doc. 65 issued Jan. 22, 1884*; 1882, *Doc. 77 issued Aug. 15, 1884*; 1883, *Doc. 95 issued Dec. 19, 1885*; 1884, *Doc. 108 issued Nov. 24, 1886*; 1885, *Doc. 115 issued May 16, 1887*; 1886, *Doc. 134 issued 1889*; 1887, *Doc. 176 issued Dec. 1, 1891*; 1888-89, *Doc. 192 issued 1893*; 1889-1891, *Doc. 213 issued 1893*; 1892, *Doc. 283 issued Dec. 26, 1894*; 1893, *Doc. 298 issued May 28, 1896*; 1894, *Doc. 315 issued 1896*; 1895, *Doc. 331 issued Jan. 6, 1897*; 1896, *Doc. 337 issued May 29, 1897*; 1897, *Doc. 344 issued Feb. 21, 1898*; 1898, *Doc. 398 issued Mar. 16, 1899*; 1899, *Doc. 430 issued Sept. 8, 1900*; 1900, *Doc. 450 issued Dec. 15, 1900*; 1901, *Doc. 481 issued June 30, 1902*; 1902, *Doc. 524 issued Apr. 16, 1903*; 1903, *Doc. 548 issued May 9, 1904*; 1904, *Doc. 553 issued Jan. 11, 1905*; 1905, *Doc. 594 issued Jan. 19, 1906*; 1906, *Doc. 608 issued Dec. 31, 1906*; 1907, *Doc. 629 issued Dec. 13, 1907*; 1908, *Doc. 642 issued Dec. 23, 1908*; 1909, *Doc. 727 issued Feb. 12, 1910*; 1910, *Doc. 734 issued Nov. 25, 1910*; 1911, *Doc. 753 issued May 4, 1912*; 1912, *Doc. 772 issued Feb. 1, 1913*; 1913, *Doc. 78 issued Jan. 27, 1914*; 1914, *Doc. 807 issued Dec. 9, 1914*; 1915, *Doc. 827 issued Dec. 24, 1915*; 1916, *Doc. 836 issued Dec. 16, 1916*; 1917, *Doc. 845 issued Dec. 6, 1917*; 1918, *Doc. 862 issued Dec. 11, 1918*; 1919, *Doc. 877 issued Dec. 11, 1919*; 1920, *Doc. 894 issued Dec. 16, 1920.* F10-2-3

PUBLICATIONS.

- Scudder, Charles W.:** A list of the blank forms, circulars, and minor publications of the U. S. Fish commission from August 1, 1883, to August, 1884. Bulletin, 1884 (1884), vol. IV, p. 397-400. F18-350
- List of publications of the United States Fish commission from its establishment in February, 1871, to February, 1896. Report, 1894 (1896), p. 617-706. *Doc. 329 issued Dec. 14, 1896.*

- Smiley, Charles Wesley:** List of papers relating to the work of the United States Fish commission from its organization in 1871, to July 1, 1883, and which have been published under the direction of the United States Fish commission, National museum, and Tenth census, together with a topical synopsis of the titles. Bulletin, 1883 (1883), vol. III, p. 1-85. F18-114
- A list of the blank forms, circulars, and minor publications of the United States Fish commission from its organization in 1871 to August 1, 1883. Bulletin, 1883 (1883), vol. III, p. 129-148. F18-121
- Chronological list of pamphlet publications of the U. S. Fish commission from its organization in 1871 to January, 1885. Bulletin, 1885 (1885), vol. V, p. 41-48. F18-376
- U. S. Bureau of Fisheries:** Publications of the United States Commission of fish and fisheries available for distribution on June 30, 1897. Appendix 7, Report, 1896 (1897), p. 343-356. *Doc. 354 issued Feb. 4, 1898.*
- Publications of the United States Commission of fish and fisheries available for distribution on March 1, 1899. Report, 1899 (1900), p. 313-327. *Doc. 406 issued Mar. 28, 1899.*
- Publications of the United States Commission of fish and fisheries available for distribution on June 30, 1903. Report, 1903 (1905), p. 529-551. *Doc. 552 issued Oct. 27, 1904.*
- List of publications of the Bureau of fisheries available for distribution. *Doc. 614 issued Sept. 4, 1907; Jan. 23, 1908; Apr. 25, 1908; Dec. 21, 1908; Mar. 20, 1909; May 7, 1910; Feb. 19, 1911; Aug. 15, 1913; Oct. 20, 1914; July 17, 1915; May 26, 1916.*

LABORATORIES.

BEAUFORT, N. C.

HISTORY.

- U. S. Bureau of Fisheries:** The Bureau of fisheries and its biological station at Beaufort, N. C. 1916. 11 p., illus. [Occasional papers.] F16-104
- U. S. Commissioner of Fisheries:** [Establishment of station.] Report, 1901 (1902), p. 14-15.
- [Description of laboratory.] Report, 1903 (1905), p. 14-15, illus.
- [Improvements and repairs.] Report, 1915 (1917), p. 34-35.

BRIEF MENTION OF WORK.

- U. S. Commissioner of Fisheries:** Report, 1905 (1907), p. 26; 1906 (1908), p. 15; 1908 (1910), p. 11; 1909 (1911), p. 16; 1910 (1911), p. 19; 1911 (1913), p. 23; 1912 (1914), p. 57; 1913 (1914), p. 31-32; 1915 (1917), p. 35; 1918 (1920), p. 28; 1919 (1921), p. 29.

RÉSUMÉ OF INVESTIGATIONS.

- Smith, Hugh McCormick:** [Investigation for 1898-1903.] Report, 1899 (1900), p. CXLII-CXLIII; 1900 (1901), p. 125-126; 1901 (1902), p. 131-132; 1902 (1904), p. 138; 1903 (1905), p. 99-100; 1904 (1905), p. 118-120.
- U. S. Commissioner of Fisheries:** [Report of investigation for 1906.] Report, 1907 (1909), p. 12-13.
- [Report of investigations for 1913.] Report, 1914 (1915), p. 68-69.
- [Service of the Beaufort laboratory.] Report, 1916 (1917), p. 46-47.

FAIRPORT, IOWA.

HISTORY.

- Coker, Robert Ervin:** The Fairport fisheries biological station: its equipment, organization, and functions. Bulletin, 1914 (1916), vol. XXXIV, p. 383-405, illus., pl. LXXVI-LXXXI. *Doc. 826 issued July 7, 1916.* F16-131
- The Fisheries biological station at Fairport, Iowa. Appendix I, Report, 1920 (192-). *Doc. 895 issued 1921.*
- U. S. Commissioner of Fisheries:** [Fisheries laboratory at Fairport.] Report, 1914 (1915), p. 69-70; 1915 (1917), p. 33-34.
- [Service of Fairport laboratory.] Report, 1916 (1917), p. 47-48.
- [Destruction by fire.] Report, 1918 (1920), p. 28.
- Wilson, Charles Branch:** [Description of ponds at Fairport.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 186-188.

BRIEF MENTION OF WORK.

- U. S. Commissioner of Fisheries:** Report, 1911 (1913), p. 20; 1912 (1914), p. 57; 1913 (1914), p. 32; 1916 (1917), p. 47-48; 1917 (1919), p. 87; 1918 (1920), p. 28; 1919 (1921), p. 28.

KEY WEST, FLA.

HISTORY.

- U. S. Commissioner of Fisheries:** [Acquisition of land and plans for laboratory.] Report, 1916 (1917), p. 47.
 — [Construction started.] Report, 1917 (1919), p. 87.

BRIEF MENTION OF WORK.

- U. S. Commissioner of Fisheries:** Report, 1918 (1920), p. 28; 1919 (1921), p. 28.

WOODS HOLE, MASS.

HISTORY.

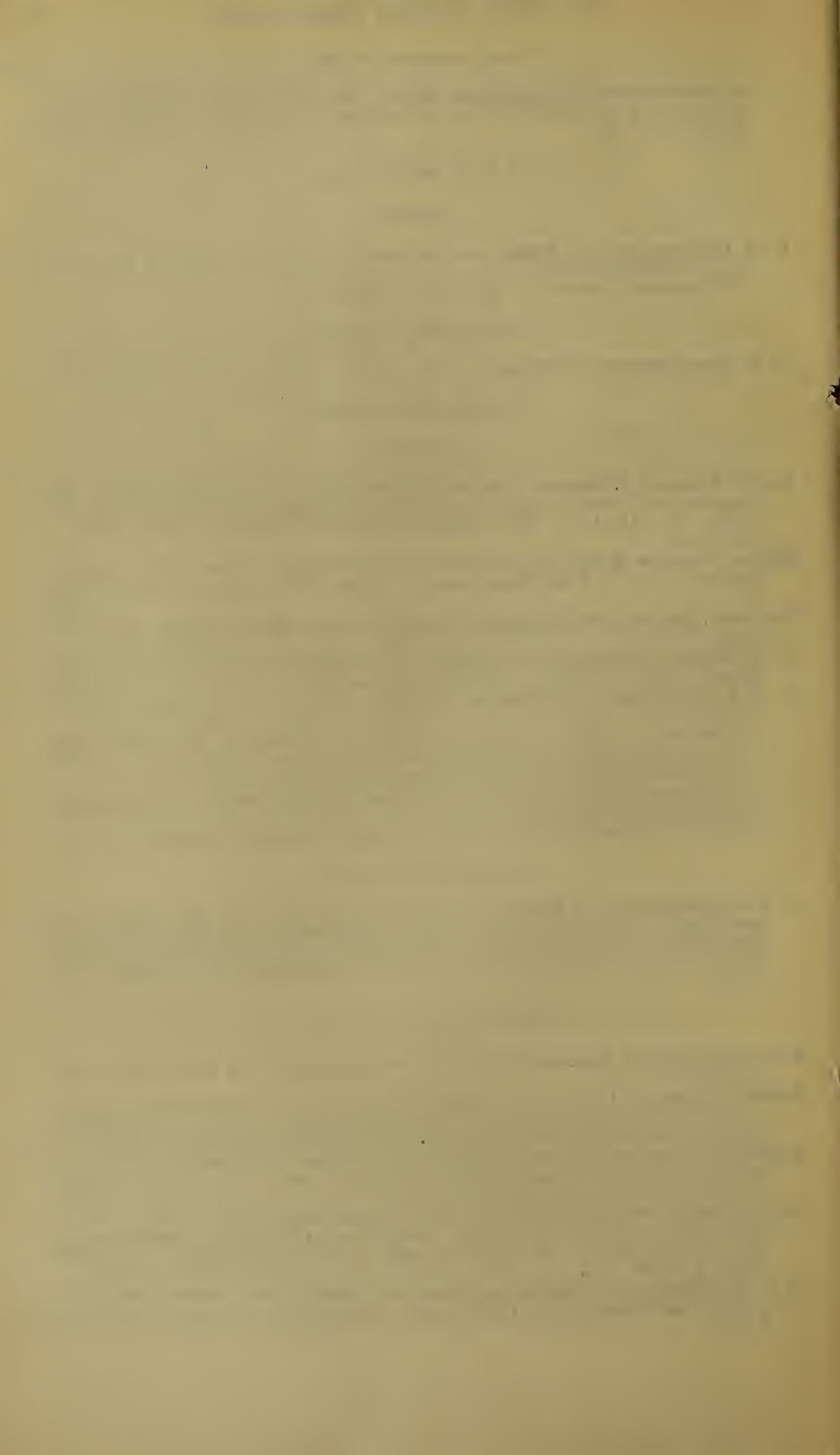
- Baird, Spencer Fullerton:** The Woods Hole station. (Records, inception, rise, progress, and current condition.) Report, 1882 (1884), p. XXXVIII-XLI; 1883 (1885), p. LIII-LVI; 1884 (1886), p. XXXVII-XXXIX; 1885 (1887), p. XLIX-LI.
- Kidder, Jerome Henry:** Report upon the water supply of the Fish commission station at Wood's Holl, Massachusetts. Report, 1884 (1886), p. 215-221, illus., pl. F17-124
- Ravenel, William de Chastignier:** [Installation of aquarium.] Report, 1895 (1896), p. 18.
- U. S. Bureau of Fisheries:** The Bureau of fisheries and its station at Woods Hole, Mass. 1915. 11 p., illus. [Occasional papers.] F15-77
- U. S. Commissioner of Fisheries:** Selection of Woods Hole. Report, 1875-1876 (1878), p. 4*.
- Memoranda for the construction of a harbor of refuge at Woods Hole, Mass. (Circular typewritten and lithographed). 6 p. *Doc. 44 issued Apr. 28, 1882.*
- [Appropriation by Congress.] Report, 1882 (1884), p. XLI.
- [Purchase of land by private subscription; also donation of shore line.] Report, 1883 (1885), p. LIV.
- [Service of Woods Hole laboratory.] Report, 1916 (1917), p. 45-46.

BRIEF MENTION OF WORK.

- U. S. Commissioner of Fisheries:** Report, 1885 (1887), p. 11; 1887 (1891), p. 16; 1896 (1898), p. 3; 1898 (1899), p. XVI; 1901 (1902), p. 10; 1906 (1908), p. 15; 1908 (1910), p. 11; 1909 (1911), p. 16; 1910 (1911), p. 19; 1911 (1913), p. 23; 1912 (1914), p. 58; 1913 (1914), p. 31; 1917 (1919), p. 86; 1918 (1920), p. 28; 1919 (1921), p. 28.

RÉSUMÉ OF INVESTIGATIONS.

- Evermann, Barton Warren:** [Report of investigations for 1903.] Report, 1904 (1905), p. 93-98.
- Rathbun, Richard:** [Report of investigations for 1887 to 1895.] Report, 1888-89 (1892), p. XLI-CVII; 1889-1891 (1893), p. 151-167; 1892 (1894), p. CIX-CX; 1893 (1895), p. 36-38; 1894 (1896), p. 96-99; 1895 (1896), p. 89-92; 1896 (1898), p. 116-118.
- Ryder, John Adam:** Report of operations at the laboratory of the U. S. Fish commission, Woods Hole, Mass., during the summer of 1888. Report, 1888-89 (1892), p. 513-522. *Doc. 181 issued June 30, 1892.* F12-223
- Smith, Hugh McCormick:** [Report of investigations for 1897 to 1903.] Report, 1897 (1898), p. CXX-CXXI; 1898 (1899), p. CXLIII-CXLV; 1899 (1900), p. 122-124; 1900 (1901), p. 122-124; 1901 (1902), p. 127-130; 1902 (1904), p. 136; 1903 (1905), p. 93-98.
- U. S. Commissioner of Fisheries:** [Report of investigations.] Report, 1905 (1907), p. 26-27; 1907 (1909), p. 12; 1914 (1915), p. 67-68; 1915 (1917), p. 34; 1916 (1917), p. 46.



Part 2.—VOYAGES AND INVESTIGATIONS.

Part 2.—VOYAGES AND INVESTIGATIONS.

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VESSELS, DESCRIPTION OF.

ALBATROSS.

- Baird, George Washington:** Report on the working of the boilers and engine of the U. S. Fish commission steamer *Albatross*. Bulletin, 1884 (1884), vol. IV, p. 145-151. F18-256
- Annual report on the electric lighting of the United States steamer *Albatross*, December 31, 1883. Bulletin, 1884 (1884), vol. IV, p. 153-158, illus. *Doc. 73 issued June 25, 1884.* F13-90
- Tanner, Zera Luther:** Report on the work of the United States Fish commission steamer *Fish Hawk* for the year ending December 31, 1882, and on the construction of the steamer *Albatross*. Report, 1882 (1884), 32 p. F11-270
- Report on the construction and outfit of the United States Fish commission steamer *Albatross*. Report, 1883 (1885), p. 3-116, LV pl. *Doc. 107 issued Sept. 7, 1886.* F11-295
- Deep-sea exploration: a general description of the steamer *Albatross*, her appliances and methods. Bulletin, 1896 (1897), vol. XVI, p. 257-428, illus., LX pl. *Doc. 330 issued June 24, 1897.* F12-112
- U. S. Bureau of Fisheries:** Specifications for building the new boilers, etc., for the steamer *Albatross*. 25 p. *Doc. 109 issued 1886.*
- U. S. Commissioner of Fisheries:** [Proposed steamer *Albatross*.] Report, 1881 (1884), p. XXIII-XXIV.
- [Repairs to *Albatross*.] Report, 1899 (1900), p. XXVII.

BLUE LIGHT.

- U. S. Commissioner of Fisheries:** [Detail by Secretary of Navy of *Blue Light*.] Report, 1877 (1879), p. 2*.

CANVAS BACK.

- U. S. Bureau of Fisheries:** Specifications for the paddle-wheel steam sein boat *Canvas Back*, for service in the river and bay fisheries. 12 p. *Doc. 35 issued Feb. 18, 1882.* F12-234
- U. S. Commissioner of Fisheries:** [*Canvas Back* loaned to State of Virginia.] Report, 1893 (1895), p. 9.

FISH HAWK.

- Tanner, Zera Luther:** Report on the construction and work in 1880 of the Fish commission steamer *Fish Hawk*. Report, 1881 (1884), 53 p. incl. tables, XVIII pl. *Doc. 70 issued May 1, 1884.* F12-234
- U. S. Commissioner of Fisheries:** Specifications for building the screw-steamer *Fish Hawk*. (U. S. Lighthouse establishment.) 46 p. *Doc. 24 issued July, 1879.* F12-235
- [Construction of the *Fish Hawk*.] Report, 1879 (1882), p. XVIII.
- [Description of the *Fish Hawk*.] Report, 1880 (1883), p. XXVI.

GRAMPUS.

- Baird, Spencer Fullerton:** [Description of the *Grampus*.] Report, 1885 (1887), p. XXIV-XXXII.
- Collins, Joseph William:** Report on the construction and equipment of the schooner *Grampus*. Report, 1887 (1891), p. 437-490, XVIII pl. *Doc. 171 issued Aug. 24, 1891.* F11-333
- Libbey, William:** [Description of the *Grampus*.] Bulletin, 1889 (1891), vol. IX, p. 393-394.

SPEEDWELL.

U. S. Commissioner of Fisheries: [Detail of the *Speedwell*.] Report, 1877 (1879), p. 2* -3*.

SCIENTIFIC APPARATUS AND INSTRUMENTS.

- Beardslee, Lester Anthony:** Experiments upon the time of exposure required for accurate observations on the Casella-Miller deep-sea thermometer. Report, 1877 (1879), p. 887-900. F16-125
- Casella, Louis P.:** Treatment of the Casella-Miller thermometer. Bulletin, 1884 (1884), vol. IV, p. 415. F18-351
- Kidder, Jerome H.:** Report on the thermometers of the U. S. Commission of fish and fisheries. Report, 1885 (1887), p. 185-214, illus. *Doc. 116 issued Oct. 7, 1887.* F11-300
- Libbey, William:** [Appliances used in the work of a physical investigation of the waters off the southern coast of New England.] Bulletin, 1889 (1891), vol. IX, p. 394-398.
- Rathbun, Richard:** Descriptive catalogue of the collection illustrating the scientific investigation of the sea and fresh waters. (Great International fisheries exhibition. London, 1883.) 109 p. *Doc. 69 issued Apr. 19, 1884.* F12-296
- Tanner, Zera Luther:** [Apparatus for deep-sea research, on the U. S. Fish commission steamer *Albatross*.] Report, 1883 (1885), p. 53-102.
- [Appliances and apparatus on the U. S. Fish commission steamer *Albatross*.] Report, 1886 (1889), p. 636-644.
- On the appliances for collecting pelagic organisms, with special reference to those employed by the U. S. Fish commission. Bulletin, 1894 (1895), vol. XIV, p. 143-151, pl. 9-12. *Doc. 289 issued Nov. 22, 1894.* F12-176
- [Description of Sigsbee's gravitating trap.] Bulletin, 1894 (1895), vol. XIV, p. 145-146.
- [Description of the Chun-Peterson tow net.] Bulletin, 1894 (1895), vol. XIV, p. 146-147.
- [Description of the Tanner intermediate tow net.] Bulletin, 1894 (1895), vol. XIV, p. 147-151.
- Deep-sea explorations: a general description of the steamer *Albatross*, and her appliances and methods. Bulletin, 1896 (1897), vol. XVI, p. 257-428, illus., LX pl. *Doc. 330 issued June 24, 1897.* F12-112
- Townsend, Charles Haskins:** Description of a closing tow net for submarine use at all depths. Report, 1894 (1896), p. 279-282. *Doc. 322 issued Nov. 28, 1896.* F11-188
- Verrill, Addison Emory:** Description of some of the apparatus used by the United States Commission of fish and fisheries in dredging off the New England coast. Report, 1880 (1883), p. 65-74, 4 pl. F16-303

INVESTIGATIONS AND RESULTS.

- Karsten, Gustav:** On the scientific investigation of the Baltic Sea and the German Ocean. Report, 1878 (1880), p. 283-294. F16-162
- Martens, J. B.:** [First investigation of the depths of the ocean.] Bulletin, 1882 (1883), vol. II, p. 260-262.
- [The *Challenger* scientific voyage around the world.] Bulletin, 1882 (1883), vol. II, p. 262-264.
- Prussia. Kommission zur wissenschaftlichen Untersuchung der Deutschen Meere in Kiel:** Popular extracts from the investigations of the commission for the scientific examination of the German seas. [By H. A. Meyer, K. Möbius, G. Karsten, V. Hensen.] Report, 1879 (1882), p. 525-548. *Doc. 40 issued Apr. 3, 1882.* F11-214
- Sars, George Ossian:** Report on the Norwegian deep-sea expedition of 1878. Report, 1878 (1880), p. 257-281. F16-161

ALBATROSS.

- Alexander, Alvin Burton:** Notes on the boats, apparatus, and fishing methods employed by the natives of the South Sea islands, and results of fishing trials by the *Albatross*. Report, 1901 (1902), p. 741-829, pl. 30-37. *Doc. 509 issued Oct. 29, 1902.* F11-31
- Alexander, Alvin Burton, and H. B. Joyce:** Preliminary examination of halibut grounds of the Pacific coast. With introductory notes on the halibut fishery. Report and special papers, 1911 (1913), 56 p. *Doc. 763 issued July 22, 1912.* F12-203

- Collins, Joseph William:** The *Albatross* work useful to fishermen. Bulletin, 1885 (1885), vol. V, p. 466.
- Report on the discovery and investigation of the fishing-grounds made by the Fish commission steamer *Albatross* during a cruise along the Atlantic coast and in the Gulf of Mexico, with notes on the Gulf fisheries. Report, 1885 (1887), p. 217-311, X pl. Doc. 119 issued Nov. 3, 1887. F11-298
- Notes on an investigation of the great fishing banks of the western Atlantic. Bulletin, 1886 (1887), vol. VI, p. 369-381. F18-614
- Drake, Franklin Jeremiah:** Report upon the investigations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1895 (Abstract). Report 1895 (1896), p. 125-168, incl. tables. Doc. 332 issued Jan. 6, 1897. F11-195
- Fewkes, Jesse Walter:** Report on the Medusæ collected by the U. S. Fish commission steamer *Albatross* in the region of the Gulf Stream in 1883-84. Report, 1884 (1886), p. 927-980. Doc. 113 issued Dec. 1, 1886. F11-260
- Report on the Medusæ collected by the U. S. Fish commission steamer *Albatross* in the region of the Gulf Stream, in 1885-86. Report, 1886 (1889), p. 513-536. Doc. 129 issued May 24, 1889. F11-256
- Gilbert, Charles Henry:** The ichthyological collections of the U. S. Fish commission steamer *Albatross* during the years 1890 and 1891. Report, 1893 (1895), p. 393-476, pl. 20-35. Doc. 326 issued Dec. 8, 1896. F16-222
- Report on fishes obtained by the steamer *Albatross* in the vicinity of Santa Catalina Island and Monterey Bay. Report, 1898 (1899), p. 23-29, 2 pl. Doc. 400 issued Mar. 22, 1899. F11-112
- Johnston, Edward C.:** Survey of the fishing grounds on the coast of Washington and Oregon. Appendix VI, Report, 1915 (1917), 20 p., 4 charts (part fold.). Doc. 835 issued Nov. 9, 1916. F16-332
- Jordan, David Starr:** The aquatic resources of the Hawaiian Islands. Contents.— Pt. 1. The shore-fishes of the Hawaiian Islands, with a general account of the fish fauna, by D. S. Jordan and B. W. Evermann. Pt. 2. The deep-sea fishes, by C. H. Gilbert. The commercial fishes, by J. N. Cobb. Pt. 3. Miscellaneous papers: Birds of Laysan and the Leeward Islands, Hawaiian group, by W. K. Fisher. Notes on a porpoise of the genus *Prodelphinus* from the Hawaiian Islands, by F. W. True. Isopods collected at the Hawaiian Islands, by Harriet Richardson. The Brachyura and Macrura of the Hawaiian Islands, by Mary J. Rathbun. Hydroids of the Hawaiian Islands, by C. C. Nutting. Schizopods of the Hawaiian Islands, by A. E. Ortmann. Nemerteans of the Hawaiian Islands, by W. R. Coe. The starfishes of the Hawaiian Islands, by W. K. Fisher. Medusæ of the Hawaiian Islands, by A. G. Mayer. Polychaetous annelids of the Hawaiian Islands by A. L. Treadwell. General index. (Collections made by the U. S. Fish commission's steamer *Albatross* in 1902, under the direction of David Starr Jordan and Barton Warren Evermann.) Bulletin 1903 (1905-06), vol. XXIII, 3 parts, illus., plates (partly col.) fold. map. 5-35162
- Jordan, David Starr, and Edwin Chapin Starks:** List of fishes dredged by the steamer *Albatross* off the coast of Japan in the summer of 1900, with descriptions of new species and a review of the Japanese Macrouridæ. Bulletin, 1902 (1904), vol. XXII, p. 577-630, illus., 8 pl. Doc. 551 issued Aug. 13, 1904. F12-51
- Moore, Henry Frank:** [The *Albatross* South Sea expedition.] Report, 1900 (1901), p. 137-161.
- Moser, Jefferson F.:** The salmon and salmon fisheries of Alaska. Report of the operations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1898. Bulletin, 1898 (1899), vol. XVIII, p. 1-178, illus., fold. charts, 63 pl. Doc. 408 issued July 27, 1899. F12-94
- The salmon and salmon fisheries of Alaska. Report of the Alaskan salmon investigations of the U. S. Fish commission steamer *Albatross* in 1900 and 1901. Bulletin, 1901 (1902), vol. XXI, p. 173-398, 399*-401*, illus., fold. tables and charts, XLIV pls. Doc. 510 issued Oct. 31, 1902. F12-278
- Nye, Willard:** Notes taken during the cruise of the *Albatross* to the Grand Banks on June and July, 1885. Bulletin, 1885 (1885), vol. V, p. 336. F18-470
- Rathbun, Richard:** Summary of the fishery investigations conducted in the north Pacific Ocean and Bering Sea from July 1, 1888, to July 1, 1892, by the U. S. Fish commission steamer *Albatross*. (List of charts and other publications bearing upon the fishery investigations of the steamer *Albatross*, p. 198-201.) Bulletin, 1892 (1894), vol. XIII, p. 127-201, pl. LI-LV. Doc. 228 issued Feb. 6, 1894. F12-163
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coast of Washington and Oregon in 1914. Appendix VII, Report, 1914 (1915), 30 p., pl., fold. tab., 2 fold. charts. Doc. 817 issued June 8, 1915. F15-86

- Smith, Sidney Irving:** Report on the decapod crustacea of the *Albatross* dredgings off the east coast of the United States in 1883. Report, 1882 (1884), p. 345-426, X pl. *Doc. 78 issued Aug. 15, 1884.* F11-271
- Report on the decapod crustacea of the *Albatross* dredgings off the east coast of the United States during the summer and autumn of 1884. Report, 1885 (1887), 101 p., XX pl. *Doc. 105 issued Sept. 1, 1886.* F11-250
- Tanner, Zera Luther:** Explorations of the fishing grounds of Alaska, Washington Territory, and Oregon, during 1888, by the U. S. Fish commission steamer *Albatross*. Bulletin, 1888 (1890), vol. VIII, p. 1-95 incl. tables, XII pl. (partly fold.). *Doc. 135 issued 1889.* F11-292
- The fishing grounds of Bristol Bay, Alaska: a preliminary report upon the investigations of the U. S. Fish commission steamer *Albatross*, during the summer of 1890. Bulletin, 1889 (1891), vol. IX, p. 279-288, pl. CVIII-CX (fold.). *Doc. 161 issued June 16, 1891.* F12-149
- Verrill, Addison Emory:** Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound. Report, 1882 (1884), p. 641-669. *Doc. 83 issued Aug. 15, 1884.* F11-267
- Results of the explorations made by the steamer *Albatross* off the northern coast of the United States in 1883. Report, 1883 (1885), p. 503-699, XLIV pl. *Doc. 99 issued Aug. 16, 1886.* F11-243

RÉSUMÉ OF WORK.

- Baird, Spencer F.:** [*Albatross* put in commission Nov. 11, 1882.] Report, 1882 (1884), p. XXV-XXVII.
- [First year's work of the *Albatross*.] Report, 1883 (1885), p. XXVIII.
- [Work of the *Albatross*.] Report, 1884 (1886), p. XVIII-XX; 1885 (1887), p. XXVI-XXVIII; 1886 (1889), p. XLV-XLVI.
- McDonald, Marshall:** [Work of the *Albatross*.] Report, 1887 (1891), p. LII-LIV; 1888-89 (1892), p. XI-XII; 1889-91 (1893), p. 2-4.
- Rathbun, Richard:** [Investigations of the *Albatross*.] Report, 1888-89 (1892), p. XLVII-LV; 1889-91 (1893), p. 97-109; 1892 (1894), p. XCII-CHII.
- [Operations of the steamer *Albatross* on the north Pacific Ocean and Bering Sea.] Report, 1893 (1895), p. 18-19; 1894 (1896), p. 82-87; 1895 (1896), p. 75-77; 1896 (1898), p. 96-101.
- Smith, Hugh M.:** [Operations of the *Albatross*.] Report, 1897 (1898), p. CXVII-CXVIII.
- U. S. Commissioner of Fisheries:** [Investigations of the *Albatross*.] Report, 1898 (1899), p. XVIII-XXIV; 1899 (1900), p. 21-22; 1900 (1901), p. 21-22; 1901 (1902), p. 13; 1902 (1904), p. 16-17; 1903 (1905), p. 19-20; 1904 (1905), p. 17-18; 1905 (1907), p. 37; 1906 (1908), p. 19-20; 1907 (1909), p. 17; 1908 (1910), p. 11; 1910 (1911), p. 34; 1911 (1913), p. 63; 1912 (1914), p. 65; 1913 (1914), p. 30; 1914 (1915) p. 63; 1915 (1917), p. 31; 1916 (1917), p. 39; 1917 (1919), p. 102.

BACHE.

- Bigelow, Henry Bryant:** Explorations of the United States Coast and geodetic survey steamer *Bache* in the western Atlantic, January to March, 1914, under the direction of the United States Bureau of fisheries, Oceanography. (Bibliography: p. 60-62.) Appendix V, Report, 1915 (1917), 62 p. incl. tables, illus., fold. chart. *Doc. 833 issued May 9, 1917.* F17-189
- Packard, Alpheus Spring:** Preliminary report on a series of dredgings made on the U. S. Coast survey steamer *Bache*, in the Gulf of Maine, under the direction of Prof. S. F. Baird, U. S. Fish commissioner, during September, 1873. Report 1873-74 and 1874-75 (1876), p. 687-690. F16-33

FISH HAWK.

- Battle, John D.:** An investigation of the coast waters of South Carolina, with reference to oyster culture. Bulletin, 1890 (1892), vol. X, p. 303-330, pl. LIV-LX. *Doc. 199 issued Nov. 2, 1892.* F12-118
- Bush, Katharine Jeanette:** List of deep-water Mollusca dredged by the U. S. Fish commission steamer *Fish Hawk* in 1880, 1881, and 1882, with their range in depth. Report, 1883 (1885), p. 701-727. *Doc. 100 issued Aug. 16, 1886.* F11-244

- Collins, Joseph William:** Report of a trip of exploration in the Chesapeake Bay, made in the spring of 1882 by the steamer *Fish Hawk*. Report, 1882 (1884) p. 1035-1038. F16-312
- Grave, Caswell:** Investigations for the promotion of the oyster industry of North Carolina. (*Contents*.—Investigations for the promotion of the oyster industry of North Carolina, by C. Grave. Anatomy, embryology, and growth of the oyster, by H. F. Moore. Observations and experiments on the growth of oysters, by O. C. Glaser.) Report 1903 (1904), p. 247-341, XI pl., fold. map. *Doc. 556 issued Feb. 2, 1905.* F11-21
- Howe, Freeland:** Report of a dredging expedition off the southern coast of New England, September, 1899. Bulletin, 1899 (1901), vol. XIX, p. 237-240. *Doc. 444 issued Sept. 12, 1900.* F12-85
- Lee, Leslie A.:** On the work of the *Fish Hawk* and of the U. S. Fish commission during the year 1881. Report, 1881 (1884), p. LVIII-LXIII.
- Moore, Henry Frank:** Report on the oyster-beds of Louisiana. Report, 1898 (1899), p. 45-100, pl. 3. *Doc. 402 issued Mar. 22, 1899.* F11-114
- Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. Report and special papers, 1911 (1913), 42 p., VI pl., fold. map. *Doc. 774 issued May 16, 1913.* F12-72
- Moore, Henry Frank, and Ernest Dangle:** Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. Appendix II, Report, 1914 (1915), 45 p., V pl., fold. chart. *Doc. 809 issued Feb. 13, 1915* F15-15
- Piepmeyer, L. W.:** Report on the work of the U. S. Fish commission steamer *Fish Hawk*, for the year ending December 31, 1885. Report, 1885 (1887), p. 91-101. F17-142
- Smith, James A.:** Report of operations of the U. S. Fish commission steamer *Fish Hawk* for the year ending December 31, 1886. Report, 1886 (1889), p. 693-697.
- Report on the shad work of the steamer *Fish Hawk* during the season of 1886. Report, 1886 (1889), p. 819-823.
- Swift, Franklin:** Report of a survey of the oyster regions of St. Vincent Sound, Apalachicola Bay, and St. George Sound, Florida. Report, 1896 (1898), p. 187-221, pl. 22. *Doc. 343 issued 1897.* F11-178
- Tanner, Zera Luther:** A report of the work of the United States Fish commission steamer *Fish Hawk*, for the year ending December 31, 1881, Report, 1881 (1884) p. 55-85, incl. tables., illus.
- Report of the work of the U. S. Fish commission steamer *Fish Hawk* for the year ending December 31, 1882, and on the construction of the steamer *Albatross*. Report, 1882 (1884), p. 3-34, pls. I-III. *Doc. 79 issued Aug. 15, 1884.* F11-270
- Report of an exploring trip of the steamer *Fish Hawk*, in Chesapeake Bay in the early spring of 1882. Bulletin, 1882 (1883), vol. II, p. 133-135. F12-351
- U. S. Bureau of Fisheries:** Dredging stations of the U. S. Fish commission steamer *Fish Hawk*, Lieut. Z. L. Tanner commanding, for 1880, 1881, and 1882, with temperature and other observations. Arranged for publication by Richard Rathbun. Bulletin, 1882 (1883), vol. II, p. 119-131 incl. tables. F12-385
- Report of the operations of the U. S. Fish commission steamer *Fish Hawk*, in shad hatching, during the seasons of 1885, 1886, 1887. Bulletin, 1885 (1885), vol. V, p. 395-400; 1886 (1886), vol. VI, p. 289-293; 1887 (1887), vol. VII, p. 83-89. F13-594
- Investigations of the aquatic resources and fisheries of Porto Rico by the U. S. Fish commission steamer *Fish Hawk* in 1899. (*Contents*.—General report, by B. W. Evermann. The fisheries and fish trade of Porto Rico, by W. A. Wilcox. The fishes of Porto Rico, by B. W. Evermann and M. C. Marsh.) Bulletin, 1900 (1902), vol. XX, 350 p., 52 pl. (incl. 3 fold. maps). *Doc. 451 issued Dec. 15, 1900.* 5-4161
- A biological survey of the waters of Woods Hole and vicinity. Part I, Sec. I.—Physiological and zoological, by Francis B. Sumner, Raymond C. Osburn, and Leon J. Cole. (Bibliography: p. 193-200.) Sec. II.—Botanical, by Bradley M. Davis. (Literature cited: p. 497.) Part II, Sec. III.—A catalogue of the marine fauna, by Francis B. Sumner, Raymond C. Osburn, and Leon J. Cole. (Bibliography for faunal catalogue: p. 782-794.) Sec. IV.—A catalogue of the marine flora, by Bradley M. Davis. (Bibliography for floral catalogue: p. 832-833.) Bulletin, 1911 (1913), vol. XXXI, 860 p. incl. charts and tables. F13-184

- Verrill, Addison Emory:** Physical characters of the portion of the continental border beneath the Gulf Stream, explored by the *Fish Hawk*, 1880 to 1882. Report, 1882 (1884), p. 1045-1058, V pl. *Doc. 84 issued Aug. 15, 1884.* F11-266
- Wilcox, William A.:** Notes on the foreign fishery trade and local fisheries of Porto Rico. Report, 1899 (1900), p. 1-34 incl. tables, illus., 6 pl. *Doc. 418 issued Oct. 4, 1899.* F11-104
- Wood, William Maxwell:** Report of a trip made by the *Fish Hawk* to the lower part of Chesapeake Bay, to ascertain the character of the fisheries for shad, herring, etc., in the spring of 1884. Bulletin, 1884 (1884), vol. IV, p. 199-200 F18-281
- Report of a trip by the steamer *Fish Hawk* to the St. Mary's and St. John's rivers to hatch shad. Bulletin, 1884 (1884), vol. IV, p. 241-242. F18-297
- Reconnaissance of the shad fisheries of Winyaw Bay and its tributaries, by the steamer *Fish Hawk*. Bulletin, 1884 (1884), vol. IV, p. 242-243. F18-298
- Report of operations at St. Jerome station in laying out oyster ponds by the steamer *Fish Hawk*. Report, 1883 (1885), p. 1153-1156, tables. F17-42
- Report on the work of the U. S. Fish commission steamer *Fish Hawk*, for two years ending December 31, 1884. Report, 1884 (1886), p. 117-122.

RÉSUMÉ OF WORK.

- Baird, Spencer F.:** [Work of the *Fish Hawk*.] Report, 1881 (1884), p. XI-XLII; 1882 (1884), p. XXVII-XXVIII; 1883 (1885), p. XXXI-XXXIII; 1884 (1886), p. XX; 1885 (1887), p. XXVIII; 1886 (1889), p. XLVI.
- McDonald, Marshall:** [Work of the *Fish Hawk*.] Report, 1887 (1891), p. LIV; 1888-89 (1892), p. XII-XIII; 1889-91 (1893), p. 4-5.
- Rathbun, Richard:** [Investigation of the *Fish Hawk* during 1889 and 1890.] Report, 1889-92 (1893), p. 110-115.
- [Work of the *Fish Hawk*.] Report, 1892 (1894), p. CIII-CVI; 1893 (1895), p. 22-23; 1894 (1896), p. 91-92; 1896 (1898), p. 105-109.
- U. S. Commissioner of Fisheries:** [Work of the *Fish Hawk*.] Report, 1898 (1899), p. XXIV; 1899 (1900), p. XXV-XXVII; 1900 (1901), p. 22; 1901 (1902), p. 13-14; 1902 (1904), p. 17; 1903 (1905), p. 20-21; 1904 (1905), p. 18; 1905 (1907), p. 37; 1906 (1908), p. 20; 1907 (1909), p. 18; 1908 (1910), p. 11; 1909 (1911), p. 17; 1911 (1913), p. 63; 1912 (1914), p. 65-66; 1914 (1915), p. 63; 1915 (1917), p. 31; 1916 (1917), p. 40; 1917 (1919), p. 102.

GRAMPUS.

- Adams, A. C., and William Converse Kendall:** Report upon an investigation of the fishing grounds off the coast of Florida. Bulletin, 1889 (1891), vol. IX, p. 289-312, II, illus., pl. CXI (fold.). *Doc. 162 issued July 24, 1891.* F12-150
- Baird, Spencer F.:** [*Grampus* goes into commission June 5, 1886.] Report, 1886 (1889), p. XIX-XX.
- Collins, D. E.; T. H. Bean; and Richard Rathbun:** Results of investigations by the schooner *Grampus* on the southern mackerel grounds in the spring of 1887. Bulletin, 1887 (1889), vol. VII, p. 217-267. F18-674
- Libbey, William:** Report upon a physical investigation of the waters off the southern coast of New England, made during the summer of 1889 by the U. S. Fish commission schooner *Grampus*. Bulletin, 1889 (1891), vol. IX, p. 391-459, incl. tables, pl. CXXIV-CLVIII. *Doc. 168 issued Aug. 26, 1891.* F11-353
- [Physical investigations by the *Grampus* during 1892.] Report, 1893 (1895), p. 32-35.
- Rathbun, Richard.** [Investigations of the *Grampus*.] Report, 1892 (1894), p. CVII-CVIII; 1894 (1896), p. 91-93; 1896 (1898), p. 104-105.
- U. S. Bureau of Fisheries:** Report upon the operations of the U. S. Fish commission schooner *Grampus*, from June 5, 1886 to June, 30, 1888. Report, 1886 (1889), p. 701-720; 1887 (1891), p. 491-598, XVI pl. *Doc. 172 issued Aug. 24, 1891.* F11-334

RÉSUMÉ OF WORK.

- U. S. Commissioner of Fisheries:** [Work of the *Grampus*.] Report, 1887 (1891), p. LIV-LV; 1889-91 (1893), p. 5-6; 1903 (1905), p. 21-22; 1905 (1907) p. 37; 1906 (1908), p. 20; 1907 (1909), p. 18; 1909 (1911), p. 24; 1910 (1911), p. 28-30; 1911 (1913), p. 63; 1912 (1914), p. 66; 1913 (1914), p. 30; 1914 (1915), p. 61-63; 1915 (1917), p. 36-37; 1916 (1917), p. 40; 1917 (1919), p. 80, 102.

LOOKOUT.

- Blackford, Eugene Gilbert:** Report on the oyster investigation in New York with the steamer *Lookout*. Report, 1885 (1887), p. 157-163. F17-143
- Report of the work in an oyster investigation with the steamer *Lookout*. Bulletin, 1885 (1885), vol. V, p. 52-57. F18-378
- U. S. Bureau of Fisheries:** Report of the shad work of the steamer *Lookout*. Report 1882 (1884), p. 35-36; 1884 (1886), p. 123-127; 1885 (1887), p. 97-101; 1886 (1889), p. 825-827. F17-123
- Report of shad-hatching operations by the steamer *Lookout* during the seasons of 1885, 1886, 1887. Bulletin, 1885 (1885), vol. V, p. 386-394; 1886 (1886), vol. VI, p. 295-297; 1887 (1887), vol. VII, p. 111, tables. F18-596
- Report on the operations of the steamer *Halcyon* [formerly the *Lookout*] for the year ending December 31, 1886. Report, 1886 (1889), p. 699-700. F17-148

SPEEDWELL.

- Tanner, Zera Luther:** Report of operations of the United States steamer *Speedwell* in 1879, while in the service of the U. S. Fish commission. Report, 1879 (1882), p. 603-614, incl. tables. F17-9

DREDGING AND HYDROGRAPHIC RECORDS.

GENERAL.

- Evermann, Barton Warren:** [Hydrography of Porto Rico.] Bulletin, 1900 (1902), vol. XX, pt. 1, p. 11-15.
- Hoyt, W. D.:** [Physical conditions at Beaufort, N. C.] Bulletin, 1917-18, (1921), vol. XXXVI, p. 384-390.
- Jacobson, H.:** Tables of temperature of air and water at sundry stations of the United States Signal office, from March, 1874, to February, 1875, and from March, 1876, to February, 1877, inclusive. Report, 1875-1876 (1878), p. 851-861. F16-73
- Lindenkohl, A.:** Notes on the model of the Gulf of Maine constructed for the U. S. Fish commission. Bulletin, 1883 (1883), vol. III, p. 449-454. F12-403
- McDonald, Marshall:** [Fluctuations of water temperature in the Chesapeake region.] Report, 1883 (1885), p. 1034, pl.
- Murray, John:** [Recognition of marine deposits.] Bulletin, 1896 (1897), vol. XVI, p. 397-403.
- Murray, John, and A. Renard:** On the nomenclature, origin, and distribution of deep-sea deposits. Report, 1885 (1887), p. 759-785. F17-146
- Patterson, C. P.:** Temperatures in the Gulf of Mexico. Report, 1872 and 1873 (1874), p. 745-748, incl. tables. F16-67
- Rathbun, Richard:** Ocean temperatures of the eastern coast of the United States, with 32 charts. In *The fisheries and fishery industries of the United States*. 1887. Sec. III, p. 155-238.
- Smith, Sanderson, and Richard Rathbun:** List of dredging stations of the U. S. Fish commission, the U. S. Coast survey, and the British steamer *Challenger*, in North American waters from 1867-1887, together with those of the principal European government expeditions of the Atlantic and Arctic oceans. Report, 1886 (1889), p. 871-1017. *Doc. 124 issued Jan. 15, 1889.* F11-291
- Tanner, Z. L.:** [Density of sea water.] Bulletin, 1896 (1897), vol. XVI, p. 337-343.
- U. S. Bureau of Fisheries:** List of the dredging stations of the United States Fish Commission (*Bache*, *Bluelight*, *Speedwell*) from 1871 to 1879, inclusive, with temperature and other observations. Arranged for publication by Sanderson Smith and Richard Rathbun. Report, 1879 (1882), p. 559-601. *Doc. 41 issued Apr. 3, 1882.* F11-215
- U. S. Lighthouse Board:** Table of temperatures of Little Harbor, Woods Hole, Mass., from January, 1873, to December, 1873 (inclusive). Furnished by the Lighthouse board from observations of Capt. B. J. Edwards. Report, 1871-72 (1873), p. 828-831. F16-63

ALBATROSS.

- Drake, Franklin Jeremiah:** Report upon the investigations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1895 (abstract). Report, 1895 (1896), p. 125-168, incl. tables. *Doc. 332 issued Jan. 6, 1897.* F11-195
- Howe, Freeland:** Report of a dredging expedition off the southern coast of New England, September, 1899. Bulletin, 1899 (1900), vol. XIX, p. 237-240. *Doc. 444 issued Sept. 12, 1900.* F12-85

- Moser, Jefferson F.:** Report on the work of the steamer *Albatross* (abstract). Report, 1897 (1898), p. CXLVII-CLXXI.
- Rathbun, Richard:** Summary of the fishery investigations conducted in the north Pacific Ocean and Bering Sea from July 1, 1888, to July 1, 1892, by the U. S. Fish commission steamer *Albatross*. (List of charts and other publications bearing upon the fishery investigations of the steamer *Albatross*, p. 198-201.) Bulletin, 1892 (1894), vol. XIII, p. 127-201, pl. LI-LV. Doc. 228 issued Feb. 6, 1894. F12-163
- Schroeder, Seaton:** Hydrographic work of the *Albatross* in 1884. Bulletin, 1885 (1885), vol. V, p. 269-271. F18-432
- Tanner, Zera Luther:** Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1883. Report, 1883 (1885), p. 117-236, III pl. Doc. 96 issued Aug. 16, 1886. F11-303
- Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1884. Report, 1884 (1886), p. 3-116, incl. tables, pl. Doc. 110 issued Dec. 1, 1886. F11-294
- Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1885. Report, 1885 (1887), p. 3-91. Doc. 118 issued Nov. 3, 1887. F11-299
- Record of hydrographic soundings and dredging stations occupied by the steamer *Albatross* in 1886. Bulletin, 1886 (1887), vol. VI, p. 277-285, incl. tables. F18-592
- Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1886. Report, 1886 (1889), p. 605-692, X pl. Doc. 130 issued 1889. F11-257
- Report of the movements and operations of the Fish commission steamer *Albatross* from September 15 to 20, 1887. Bulletin, 1887 (1889), vol. VII, p. 155-158, incl. tables. F18-664
- Report on the work of the U. S. Fish commission steamer *Albatross* from January 1, 1887, to June 30, 1888. Report, 1887 (1891), p. 371-435, incl. tables, IV pl. Doc. 170 issued Aug. 24, 1891. F11-327
- Report on the investigations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1889. Report, 1888-89 (1892), p. 395-512, pl. L-LII (partly fold.). Doc. 180 issued June 25, 1892. F12-222
- Report upon the investigations of the U. S. Fish commission steamer *Albatross* from July 1, 1889, to June 30, 1891. Report, 1889-91 (1893), p. 207-342, incl. tables, pl. Doc. 216 issued Oct. 26, 1893. F14-133
- Report upon the investigations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1892. Report, 1892 (1894), 64 p. incl. tables, pl. Doc. 284 issued Dec. 9, 1894. F14-58
- Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1893. Report, 1893 (1895), p. 305-341, pl. Doc. 310 issued Mar. 21, 1896. F14-133
- Report upon the operations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1894. Report, 1894 (1896), p. 197-278, incl. tables. Doc. 321 issued Dec. 2, 1896. F11-187
- U. S. Bureau of Fisheries:** Records of observations made on board the United States Fish commission steamer *Albatross* during the year ending June 30, 1896. Report, 1896 (1898), p. 357-386, incl. tables. Doc. 355 issued Feb. 14, 1898. F11-181
- Dredging and other records of the United States Fish commission steamer *Albatross*, with bibliography relative to the work of the vessel. Comp. by C. H. Townsend. (Chronological bibliography relative to work of the *Albatross*: p. 501-562.) Report, 1900 (1901), p. 387-562, incl. tables, pl. I-VII (part. fold.). Doc. 472 issued Oct. 24, 1901. F11-45
- Records of the dredging and other collecting stations of the U. S. Fish commission steamer *Albatross* in 1901 and 1902. Report, 1902 (1904), p. 397-432, incl. tables. Doc. 541 issued Sept. 19, 1900. F11-6
- Records of the dredgings and other collecting and hydrographic stations of the fisheries steamer *Albatross* in 1903. Report, 1903 (1905), p. 123-138, incl. tables. Doc. 549 issued May 17, 1904. F11-9
- Dredging and hydrographic records of the U. S. fisheries steamer *Albatross* for 1904 and 1905. Report and special papers, 1905 (1907), 80 p. incl. tables. Doc. 604 issued Dec. 1, 1906. 6-45334
- Dredging and hydrographic records of the U. S. fisheries steamer *Albatross* for 1906. Report and special papers, 1906 (1908), 50 p. incl. tables. Doc. 621 issued Aug. 27, 1907. 7-35297

- U. S. Bureau of Fisheries:** Dredging and hydrographic records of the U. S. fisheries steamer *Albatross* during the Philippine expedition, 1907-1910. Report and special papers, 1910 (1911), 97 p. incl. tables. *Doc. 741 issued Nov. 29, 1910.* F10-4
- Dredging and hydrographic records of the U. S. fisheries steamer *Albatross*, 1911-1920. Appendix III, Report, 1920 (192-), 190 p. *Doc. 897 issued 1921.*

FISH HAWK.

- Tanner, Zera Luther:** Report on the work of the U. S. Fish commission steamer *Fish Hawk* for the year ending December 31, 1882, and on the construction of the steamer *Albatross*. Report, 1882 (1884), 32 p., III pl. F11-270
- U. S. Bureau of Fisheries:** Dredging stations of the U. S. Fish commission steamer *Fish Hawk*, Lieut. Z. L. Tanner commanding, for 1880, 1881, and 1882, with temperature and other observations. Arranged for publication by Richard Rathbun. Bulletin, 1882 (1883), vol. II, p. 119-131, incl. tables. F12-285

LIMNOLOGY.

- Birge, E. A.:** Gases dissolved in the waters of Wisconsin lakes. (With discussions by J. J. Stranahan and Oscar F. Nordqvist.) Bulletin, 1908 (1910), vol. XXVIII, p. 1273-1294, diagr. *Doc. 718 issued May 5, 1910.* 11-5437
- Birge, E. A., and Chancey Juday:** A limnological study of the Finger Lakes of New York. Bulletin, 1912 (1913), vol. XXXII, p. 525-609, illus., fold. pl. CXI-CXVI. *Doc. 791 issued Oct. 27, 1914.* F14-107
- Evermann, Barton Warren:** The investigation of rivers and lakes with reference to the fish environment. Bulletin, 1893 (1894), vol. XIII, p. 69-73. *Doc. 246 issued June 9, 1894.* F12-183
- A report upon salmon investigations in the headwaters of the Columbia River, in the State of Idaho, in 1895; together with notes upon the fishes observed in that State in 1894 and 1895. Bulletin, 1896 (1897), vol. XVI, p. 149-202, pl. 67-72 (partly fold.). *Doc. 318 issued Nov. 17, 1896.* F11-343
- Evermann, Barton Warren, and Seth Eugene Meek:** A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus, 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241
- [Description of Lake Chautauqua.] Report, 1901 (1902), p. 169-175.
- Juday, Chancey:** Notes on Lake Tahoe, its trout and trout-fishing. (Literature cited: p. 146.) Bulletin, 1906 (1907), vol. XXVI, p. 133-146. *Doc. 615 issued May 11, 1907.* F11-63
- A study of Twin Lakes, Colorado, with special consideration of the food of the trouts. (Bibliography: p. 175-178.) Bulletin, 1906 (1907), vol. XXVI, p. 147-178, pl. III. *Doc. 616 issued May 24, 1907.* F11-64
- Kendall, William Converse, and E. L. Goldsborough:** Fishes of the Connecticut Lakes and neighboring waters, with notes on the plankton environment. (Physical features of the lakes; p. 4-15.) Report and special papers, 1907 (1909), 77 p., 12 pls., fold. diagr. *Doc. 633 issued July 6, 1908.* 8-35558
- Fishes and fishing in Sunapee Lake. Report and special papers, 1912 (1914), 96 p., illus., IX pl. (part. col.). *Doc. 783 issued Jan. 28, 1914.* F14-1
- The Rangeley Lakes, Maine; with special references to the habits of the fishes, fish culture and angling. Bulletin, 1915-16 (1918), vol. XXXV, p. 487-594, illus., pl. XL-XLVI (part col.). *Doc. 861 issued May 25, 1918.* F18-682
- Moore, Henry Frank:** An inquiry into the feasibility of introducing useful marine animals into the waters of Great Salt Lake. Report, 1899 (1900), p. 229-250, pl. 7. *Doc. 422 issued Oct. 7, 1899.* F11-107
- Pope, Thomas E. B.:** Devil's Lake, North Dakota. A study of physical and biological conditions, with a view to the acclimatization of fish. Report and special papers, 1907 (1909), 22 p., 3 pl., fold. map. *Doc. 634 issued July 16, 1908.* 8-35574
- Reighard, Jacob E.:** Some plankton studies in the Great Lakes. Bulletin, 1893 (1894), vol. XIII, p. 127-142, pl. *Doc. 252 issued June 26, 1894.* F12-183
- Smiley, Charles Wesley:** List of 1817 of the principal lakes of the United States with designation of their locations. Report, 1882 (1884), p. 59-89. F16-327
- Snyder, John Otterbein:** Relationships of the fish fauna of the lakes of southeastern Oregon. Bulletin, 1907 (1908), vol. XXVII, p. 69-102, illus., fold. map, diagrs. *Doc. 636 issued Sept. 28, 1908.* 8-35669

PLANKTON.

- Birge, Edward A., and Chancey Juday:** [Plankton in Finger Lakes.] Bulletin, 1912 (1913), vol. XXXII, p. 587-597.
- Doolittle, A. A.:** [Notes on the plankton environment of the Connecticut Lakes: p. 65-77, chart, diagr.] In Kendall and Goldsborough: Fishes of the Connecticut Lakes and neighboring waters. Report and special papers, 1907 (1908), 77 p., 12 pls., fold. map., fold. diagr. *Doc. 633 issued July 6, 1908.* 8-35558
- Haeckel, Ernst Heinrich Philipp August:** Planktonic studies: A comparative investigation of the importance and constitution of the pelagic fauna and flora. (Literature: p. 565-641.) Report 1889-1891 (1893), p. 565-641. *Doc. 221 issued Oct. 25, 1893.* F12-231
- Hensen, Victor:** Organic matter in the Baltic. Bulletin, 1885 (1886), vol. V, p. 267-269. F18-431
- Peck, James I.:** The sources of marine food. Bulletin, 1895, (1896) vol. XV, p. 351-368, pl. 64-71. *Doc. 307 issued Apr. 11, 1897.* F12-248
- Rathbun, Richard:** [Plankton.] Bulletin, 1887 (1889), vol. VII, p. 259-267.
- Reighard, Jacob E.:** Some plankton studies in the Great Lakes. Bulletin, 1893 (1894), vol. XIII, p. 127-142, pl. *Doc. 252 issued June 26, 1894.* F12-183
- Methods of plankton investigation in their relation to practical problems. Bulletin, 1897 (1898), vol. XVII, p. 169-175. *Doc. 365 issued Aug. 8, 1898.* F12-110
- Snow, Julia W.:** The plankton algae of Lake Erie, with special reference to the *Chlorophyceæ*. (Literature: p. 393.) Bulletin 1902 (1904), vol. XXII, p. 369-394, IV col. pl. *Doc. 529 issued Aug. 4, 1903.* F12-69

POTOMOLOGY.

- Evermann, Barton Warren:** [A reconnaissance of the streams and lakes of western Montana and northwestern Wyoming.] Bulletin, 1891 (1893), vol. XI, p. 3-40, illus., pl. I-V.
- The investigation of rivers and lakes with reference to the fish environment. Bulletin, 1893 (1894), vol. XIII, p. 69-73. *Doc. 246 issued June 9, 1894.* F12-183
- A preliminary report upon salmon investigations in Idaho in 1894. Bulletin, 1895 (1896), vol. XV, p. 253-284. *Doc. 301 issued Feb. 20, 1896.* F12-245
- Gilbert, Charles Henry, and Barton Warren Evermann:** [Report upon investigations in the Columbia River basin.] Bulletin, 1894 (1895), vol. XIV, p. 169-187, pl. 13-19.
- Ingalls, J. F.:** Character of the streams on the northern shore of Lake Michigan. Report, 1872-73 (1874), p. 630-632.
- Jenkins, Oliver Peebles:** [Temperature conditions in the Kern River region.] Bulletin, 1905 (1906), vol. XXV, p. 39-43.
- Kirsch, Philip H.:** Reports upon investigations in the Maumee River basin during the summer of 1893. Bulletin, 1894 (1895), vol. XIV, p. 315-337. *Doc. 295 issued May 22, 1895.* 6-10556
- Milner, James W.:** Character of some of the northern tributaries of Lake Michigan. Report, 1872-73 (1874), p. 632-633.
- Smiley, Charles Wesley:** List of the principal rivers of the United States which empty into the Atlantic Ocean, Pacific Ocean, and the Gulf of Mexico, with their tributaries. Report, 1882 (1884), p. 91-202. F16-328
- Alphabetical index to the principal rivers of the United States. Report, 1882 (1884), p. 1059-1086. F16-326

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Section 1.—BIOLOGY OF FISHES.

Section 2.—FISH CULTURE.

Section 3.—FISHERIES AND FISHERY INDUSTRIES.

Part 3.—FISHES.

Section 1.—BIOLOGY OF FISHES.

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GENERAL.

- U. S. Bureau of Fisheries:** Report upon the inquiry respecting food-fishes and the fishing grounds. Report, 1888-89 (1892), p. 41-46; 1889-91 (1893), p. 97-171, 1892 (1894), p. 88-110; 1893 (1895), p. 17-51; 1894 (1896), p. 81-114; 1895 (1896), p. 73-92; 1896 (1898), p. 93-118 (by Richard Rathbun); 1898 (1899), p. 123-146; 1899 (1900), p. 119-146; 1900 (1901), p. 119-135; 1901 (1902), p. 111-140; 1902 (1904), p. 111-142; 1903 (1905), p. 75-100 (by H. M. Smith); 1904 (1905), p. 81-120 (by B. W. Evermann):
- Progress in biological inquiries. Report of the division of scientific inquiry for the fiscal year 1920 (by R. E. Coker). Appendix II, Report, 1920 (192-), 32 p. Doc. 896 issued Dec. 16, 1920.

ANATOMY (INCLUDING HISTOLOGY, MORPHOLOGY, AND OSTEOLOGY).

- Greene, C. W.:** Anatomy and histology of the alimentary tract of the king salmon. Bulletin, 1912 (1913), vol. XXXII, p. 73-100, pl. XXV-XXVIII. Doc. 777 issued July 25, 1913. F15-20
- The skeletal musculature of the king salmon. Bulletin, 1913 (1914), vol. XXXIII, p. 21-59, illus. Doc. 796 issued Aug. 8, 1914. F14-113
- Hermes, Otto:** On the mature male sexual organs of the conger eel (*Conger vulgaris*), with some observations on the male of the common eel (*Anquilla vulgaris*, Flemming). Bulletin, 1881 (1882), vol. I, p. 126-130, illus. F12-316
- Herrick, C. J.:** The peripheral nervous system of the bony fishes. Bulletin, 1898 (1899), vol. XVIII, p. 315-320, illus. Doc. 415 issued Oct. 21, 1899. F12-101
- Kuntz, Albert:** Notes on the habits, morphology of the reproductive organs, and embryology of the viviparous fish, *Gambusia affinis*. Bulletin, 1913 (1915), vol. XXXIII, p. 177-190, pl. XVI-XIX. Doc. 806 issued Oct. 28, 1914. F14-106
- The histological basis of adaptive shades and colors in the flounder, *Paralichthys albiguttus*. (Bibliography: p. 26-28.) Bulletin, 1915-16 (1918), vol. XXXV, 29 p., illus., 2 col. pl. Doc. 842 issued May 28, 1917. F17-185
- Lucas, Frederic Augustus:** The osteology and immediate relations of the tilefish, *Lopholatilus chamaeleonticeps*. Bulletin, 1904 (1905), vol. XXIV, p. 81-86, illus. Doc. 559 issued Feb. 14, 1905. F12-3
- Marsh, Millard Caleb:** [Note on the eye of the *Anableps dovii*.] Bulletin, 1901 (1902), vol. XXI, p. 150-151.
- Parker, George Howard:** Structure and functions of the ear of the squeteague. (Bibliography: p. 1222-1224.) Bulletin, 1908 (1910), vol. XXVIII, p. 1211-1224, pl. CXXII. Doc. 715 issued May 5, 1910. 10-35606
- Ryder, J. A.:** Notes on the development, spinning habits, and structure of the four-spined stickleback, *Apeltes quadracus*. Bulletin, 1881 (1882), vol. I, p. 24-29. F12-331
- Development of the Spanish mackerel (*Cybius maculatum*). Bulletin, 1881 (1882), vol. I, p. 135-173, pl. I-IV. F12-317
- Histological rationale of retardation.] Bulletin, 1881 (1882), vol. I, p. 187-190.
- A contribution to the development and morphology of the Lophobranchiates: (*Hippocampus antiquorum*, the sea-horse.) Bulletin, 1881 (1882), vol. I, p. 191-199, pl. XVII. F12-320
- Shufeldt, Robert Wilson:** The osteology of *Amia calva*, including certain special reference to the skeleton of Teleosteans. Report, 1883 (1885), p. 747-878, XIV pl. Doc. 90 issued Mar. 19, 1885. F11-305
- The skeleton of the black bass. Bulletin, 1899 (1901), vol. XIX, p. 311-320, illus., pl. 44. Doc. 448 issued Sept. 6, 1900. F12-283
- Silvester, Charles Frederick:** The blood vascular system of the tile fish. *Lopholatilus chamaeleonticeps*. (Literature: p. 112-114.) Bulletin, 1904 (1905), vol. XXIV, p. 87-114, illus., fold. col. pl. Doc. 560 issued Feb. 14, 1905. F12-4
- Sullivan, Michael X.:** The physiology of the digestive tract of elasmobranchs. (Bibliography: p. 24-27.) Bulletin, 1907 (1908), vol. XXVII, p. 1-27, pl. Doc. 625 issued Oct. 15, 1907. 7-35366

EMBRYOLOGY.

- Baird, S. F.:** [Facts concerning reproduction of fish.] Report, 1886 (1889), p. 80-85.
- Cary, H. H.:** Period of incubation of eggs of German carp. Bulletin, 1883 (1883), vol. III, p. 447. F18-179
- Earll, R. E.:** [Reproduction of the cod.] Report, 1878 (1880), p. 712-718.
- [Reproduction of the Spanish mackerel.] Report, 1880 (1883), p. 403-406.
- [Blackfish eggs impregnated.] Bulletin, 1885 (1885), vol. V, p. 91.

- Eigenmann, C. H.:** On the viviparous fishes of the Pacific coast of North America. (Contains "A review of the Embiotocidae," by C. H. Eigenmann and A. B. Ulrey: p. 382-400. *Cymatogaster aggregatus* Gibbons: A contribution to the ontogeny of viviparous fishes, by C. H. Eigenmann: p. 401-468.) Bulletin, 1892 (1894), vol. XII, p. 381-478, pl. XCII-CXVIII. Doc. 231 issued June 26, 1894. F12-159
- The egg and development of the conger eel. Bulletin, 1901 (1902), vol. XXI, p. 37-44, illus. Doc. 476 issued Oct. 2, 1901. F12-263
- Ewart, J. Cossar:** On the natural and artificial fertilization of the sea herring eggs. Bulletin, 1884 (1884), vol. IV, p. 193-197. F13-95
- Gaines, Kemp:** [Distinguishing the sex of carp.] Bulletin, 1885 (1885), vol. V, p. 468-469.
- Goode, G. B.:** [Reproduction of the swordfish.] Report, 1880 (1883), p. 330-331.
- Notes on the life-history of the eel, chiefly derived from a study of recent European authorities. ("A list of the most important papers concerning the eel and its reproduction": p. 112-124.) Bulletin, 1881 (1882), vol. I, p. 71-124, illus. F12-335
- [Reproduction of the mackerel.] Report, 1881 (1884), p. 111-116.
- Gudger, Eugene Willis:** [Embryology of the toadfish (*Opsanus tau*).] Bulletin, 1908 (1910), vol. XXVIII, p. 1095-1105, illus.
- Hensen, Victor:** On the occurrence and quantity of the eggs of some of the fish of the Baltic, especially those of the plaice (*Platessa platessa*), the flounder (*Platessa vulgaris*), and the cod (*Gadus morrhua*). Report, 1882 (1884), p. 427-454, illus. F16-313
- Hermes, Otto:** On the mature sexual organs of the conger eel (*Conger vulgaris*), with some observations on the male of the common eel (*Anquilla vulgaris* Fleming). Bulletin, 1881 (1882), vol. I, p. 126-130, illus. F12-316
- Jacoby, Leopold:** The eel question. Report, 1879 (1882), p. 463-483. F17-3
- Kuntz, Albert:** The embryology and larval development of *Bairdiella chrysura* and *Anchovia mitchilli*. Bulletin, 1913 (1915), vol. XXXIII, p. 1-19, illus. Doc. 795 issued May 29, 1914. F14-38
- Notes on the habits, morphology of the reproductive organs, and embryology of the viviparous fish *Gambusia affinis*. Bulletin, 1913 (1915), vol. XXXIII, p. 177-190, pl. XVI-XIX. Doc. 806 issued Oct. 28, 1914. F14-106
- Notes on the embryology and larval development of five species of teleostean fishes. Bulletin, 1914 (1916), vol. XXXIV, p. 407-429, illus. Doc. 831 issued Aug. 3, 1916. F16-132
- Kuntz, Albert, and Lewis Radcliffe:** Notes on the embryology and larval development of twelve teleostean fishes. Bulletin, 1915-16 (1918), vol. XXXV, p. 88-134, illus. Doc. 849 issued Sept. 12, 1917. F17-261
- Levene, P. A. T.:** Some chemical changes in the developing fish egg. Bulletin, 1899 (1901), vol. XIX, p. 153-155. Doc. 438 issued Aug. 31, 1900. F12-86
- McIntosh, William Carmichael:** The eggs of fishes. Bulletin, 1887 (1889), vol. VII, p. 58-62. F18-650
- [Investigations on the development of fishes at St. Andrews Marine Laboratory, Scotland.] Bulletin, 1893 (1894), vol. XIII, p. 241-256.
- Moore, Henry F.:** [Spawning of the herring.] Report, 1896 (1898), p. 405-417.
- Moore, John Percy:** [Embryology of the mackerel.] Report, 1898 (1899), p. 4-14.
- Nussbaum:** A simple test to learn if fish ova are impregnated. (Tr. by John A. Ryder.) Bulletin, 1882 (1883), vol. II, p. 347-348. F12-371
- Pearse, A. S., and Henrietta Achtenberg:** [Reproduction of the yellow perch.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 326-328.
- Reisenbichler, G. F.:** The thick or thin fertilization of eggs. Report, 1879 (1882), p. 633-644. F17-11
- Ruter, Cloudsley:** [Vitality of the spermatozoa of the quinnat salmoh.] Bulletin, 1902 (1904), vol. XXII, p. 73-81.
- Ryder, John Adam:** Preliminary notice of the more important scientific results obtained from a study of the embryology of fishes. Bulletin, 1881 (1882), vol. I, p. 22-23. F18-10
- Notes on the development, spinning habits, and structure of the four-spined stickleback, *Apeltes quadracus*. Bulletin, 1881 (1882), vol. I, p. 24-29. F12-331
- Development of the Spanish mackerel (*Cybbium maculatum*). Bulletin, 1881 (1882), vol. I, p. 135-173, pl. I-IV. F12-317
- On the retardation of the development of the ova of the shad (*Alosa sapidissima*) with observations on the egg fungus and bacteria. Bulletin, 1881 (1882), vol. I, p. 177-190. F12-319
- A contribution to the development and morphology of the Lophobranchiates (*Hippocampus antiquorum*, the sea horse). Bulletin, 1881 (1882), vol. I, p. 191-199, pl. XVII. F12-320

- Ryder, John Adam:** [The periods of yolk absorption in the shad.] Bulletin, 1881 (1882), vol. I, p. 247-248.
- The micropyle of the egg of the white perch. Bulletin, 1881 (1882), vol. I, p. 282. F18-53
- Development of the silver gar (*Belone logirostris*), with observations on the genesis of the blood in embryo fishes, and a comparison of fish ova with those of other vertebrates. Bulletin, 1881 (1882), vol. I, p. 283-301, pl. XIX-XXI. F12-323
- On the nuclear cleavage-figures developed during the segmentation of the germinal disc of the eggs of the salmon. ("List of papers:" p. 335.) Bulletin, 1881 (1882), vol. I, p. 335-339, pl. XVIII. F12-324
- Additional observations on the retardation of the development of the ova of the shad. Bulletin, 1881 (1882), vol. I, p. 422-424. F12-340
- Observations on the absorption of the yolk, the food, feeding, and development of embryo fishes, comprising some investigations conducted at the central hatchery, Armory building, Washington, D. C., in 1882. Bulletin, 1882 (1883), vol. II, p. 179-205, illus. F12-357
- On the thread-bearing eggs of the silversides (*Menidia*). Bulletin, 1883 (1883), vol. III, p. 193-196, illus. F12-380
- Preliminary notice of the development and breeding habits of the Potomac catfish, *Amiurus albidus* (Lesueur) Gill. Bulletin, 1883 (1883), vol. III, p. 225-230. F12-393
- Report on the abnormal appearance of some shad eggs from a fish kept in confinement at Havre de Grace, Maryland. Bulletin, 1883 (1883), vol. III, p. 440. F18-172
- On the retardation of the development of the ova in the shad (*Alosa sapidissima*) with observations on the egg fungus and bacteria. Report, 1881 (1884), p. 795-811. F16-342
- A contribution to the embryography of osseous fishes, with special reference to the development of the cod (*Gadus morrhua*). Report, 1882 (1884), 49 p., XII pl. Doc. 71 issued May 17, 1884. F11-275
- Note on the male organs of the eel. Bulletin, 1885 (1885), vol. V, p. 1-3. F18-364
- On the development of osseous fishes, including marine and fresh-water forms. Report, 1885 (1887), 116 p., XXX pl. Doc. 106 issued Sept. 1, 1886. F11-296
- Preliminary notice of the development of the toadfish, *Batrachus tau*. Bulletin, 1886 (1887), vol. VI, p. 4-8, pl. I. F18-522
- On the earlier stages of cleavage of the blastodisk of *Raia erinacea*. Bulletin, 1886 (1887), vol. VI, p. 8-10. F18-523
- On the intraovarian gestation of the redfish (*Sebastes marinus*). Bulletin, 1886 (1887), vol. VI, p. 92-93. F18-546
- [Development of the sturgeon.] Bulletin, 1888 (1890), vol. VIII, p. 257-262.
- Sars, George Ossian:** On the spawning and development of the cod fish. Report, 1873-4 and 1874-5 (1876), p. 213-222. F16-13
- Smiley, Charles Wesley:** How to distinguish the sex of carp. Bulletin, 1885 (1886), vol. V, p. 36-37. F18-373
- Smith, Hugh McCormick:** [Spawning of the menhaden]. Bulletin, 1895 (1896), vol. XV, p. 301-302.
- Syrski:** Lectures on the organs of reproduction and the fecundation of fishes and especially of eels. Report, 1873-4 and 1874-5 (1876), p. 719-734, illus. F16-34
- [Vitality of spermatozoa.] Bulletin, 1895 (1896), vol. XV, p. 324.
- Vrasski, Vladimir Pavlovitch:** [Dry method of fecundation.] Report, 1872-3 (1874), p. 239-240.
- Wallich, Claudius:** A method of recording egg development for use of fish-culturists. Report, 1900 (1901), p. 185-194, pl. Doc. 452 issued Apr. 10, 1901. F11-71
- Weddige:** Castrating fish. Bulletin, 1881 (1882), vol. I, p. 59-61. F18-20
- Wilson, Henry Van Peters:** The embryology of the sea bass (*Serranus atrarius*). ("List of papers referred to": p. 271-272.) Bulletin, 1889 (1891), vol. IX, p. 209-277, illus., pl. LXXXVIII-CVII. Doc. 160 issued July 7, 1891. F12-148
- [Egg of the *Mistichthys luzonensis*.] Bulletin, 1901 (1902), vol. XXI, p. 168-169.
- Worth, Stephen G.:** [Fertilization of rockfish or striped-bass eggs.] Bulletin, 1881 (1882), vol. I, p. 174-176.

FOOD.

- Alger, Charles J.:** [The relation of fish to sewage.] Bulletin, 1885 (1885), vol. V, p. 346.

- Anderson, O. P.: [Liability of young carp to starve.] Bulletin, 1886 (1887), vol. VI, p. 402.
- Atkins, Charles G.: Foods for young salmonoid fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 839-851. *Doc. 684 issued Apr., 1910.* 10-35561
- [Materials for food for Atlantic salmon.] Report, 1897 (1898), p. 58-61.
- Baird, Spencer Fullerton: [Natural food of fishes of eastern North America.] Report, 1886 (1889), p. 72-80.
- Barfurth, D.: The food and mode of living of the salmon, the trout, and the shad. (Prefatory note by Theo. Gill.) Report, 1873-75 (1876), p. 735-759. F16-35
- Bean, T. H.: [Food for aquarium animals.] Report, 1894 (1896), p. 184.
- Movements of young alewives (?) (*Pomolobus* sp.) in Colorado River, Texas. Bulletin, 1881 (1882), vol. I, p. 69-70. F18-27
- Benecke, Berthold: [Food of eels.] Bulletin, 1881 (1882), vol. I, p. 77-78.
- Best food for young salmonoids and for larger salmonoids in ponds. Report, 1877 (1879), p. 779-782. F16-116
- Brocchi, P.: [Food of carp.] Bulletin, 1886 (1887), vol. VI, p. 136.
- Brooks, W. K.: The origin of the food of marine animals. Bulletin, 1893 (1894), vol. XIII, p. 87-92. *Doc. 248 issued June 6, 1894.* F12-183
- Brumme: Great results obtained with little water. Bulletin, 1884 (1884), vol. IV, p. 329-331. F18-324
- Chabot-Karlen: [Food for trout at Beaune, Saint-Remy and Nanteuil-en-Vallen.] Bulletin, 1894 (1895), vol. XIV, p. 309-311.
- Chamberlain, Frederick M.: Some observations on salmon and trout in Alaska. Report and special papers, 1906 (1908), p. 3-112, V pl., fold. map., diagrs. *Doc. 627 issued Dec. 18, 1907.* 7-35437
- Cheney, A. Nelson: Breeding natural food artificially for young fish artificially hatched. Bulletin, 1893 (1894), vol. XIII, p. 277-279. *Doc. 264 issued June 9, 1894.* F12-183
- Clark, A. Howard: [Food of the swordfish.] Report, 1884 (1886), p. 234.
- Clark, D. C.: [Abundance of food of cod.] Report, 1901 (1902), p. 207-208.
- Clark, Frank Nelson: [Food of young whitefish.] Report, 1880 (1883), p. 586.
- [The food of the brook trout.] Report, 1897 (1898), p. 92.
- Cobb, John Nathan: Pacific cod fisheries. (Food: p. 9-10.) Report and species papers, 1915 (1917). *Doc. 830 issued Oct. 23, 1916.* F16-191.
- Cole, Leon Jacob: [Feeding habits and food of the carp.] Report, 1904 (1905), p. 564-573.
- Collins, Joseph William: [Food of the tile-fish.] Report, 1882 (1884), p. 244.
- Collins, Joseph William and D. E. Collins: [Food of the mackerel.] Report, 1887 (1891), p. 519-520.
- Connection of abundance of moss and of black flies with abundance of trout. Bulletin, 1882 (1883), vol. II, p. 103-104. F18-82
- Dambeck, Carl: [Food of the Gadidae.] Report, 1877 (1879), p. 533.
- Doolittle, A. A.: [The plankton environment of fishes in the Connecticut lakes: p. 65-77.] In *Fishes of the Connecticut Lakes . . .*, by Kendall and Goldsborough. Report and special papers, 1907 (1909), 77 p., pls., fold. map., fold. diagrs. *Doc. 633 issued July 6, 1908.* 8-35558
- Dunn, Matthias: Food of mackerel, pilchards, and herring. Bulletin, 1885 (1885), vol. V, p. 305. F18-450
- Earll, R. Edward: [Food of the cod.] Report, 1878 (1880), p. 710-711.
- [Food of the Spanish mackerel.] Report, 1880 (1883), p. 403.
- Eigenmann, Carl H.: [Food of the young squeteague.] Bulletin, 1901 (1902), vol. XXI, p. 46-47.
- Evermann, Barton Warren: [Food of whitefish.] Report, 1894 (1896), p. 301.
- [Food of the Pompano (*Trachinotus carolinus*), and of the Sheepshead (*Archosargus probatocephalus*) of Indian River, Florida.] Report, 1896 (1898), p. 232-233.
- Field, Irving A.: Unutilized fishes and their relation to the fishing industries. Report and special papers, 1906 (1908), 50 p., pl. *Doc. 622 issued Sept. 10, 1907.* 7-35352
- [Food of carp.] Bulletin, 1885 (1885), vol. V, p. 341.
- Forbes, Stephen Alfred: The food of young whitefish (*Coregonus clupeiformis*). Bulletin, 1881 (1882), vol. I, p. 19-20. F18-8
- On the food of the young whitefish (*Coregonus*). Bulletin, 1881 (1882), vol. I, p. 269-270. F20-122
- An inquiry into the first food of young lake whitefish (*Coregonus clupeiformis*). Bulletin, 1881 (1882), vol. I, p. 402-403.

- Forbes, Stephen Alfred:** The first food of the common whitefish (*Coregonus clupeiformis* Mitch.). Report, 1881 (1884), p. 771-782. F16-339
 ——— Destruction of fish-food by bladderwort (*Utricularia*). Bulletin, 1884 (1884), vol. IV, p. 443. F18-360
 ——— A preliminary report on the aquatic invertebrate fauna of the Yellowstone national park, Wyoming, and of the Flathead region of Montana. Bulletin, 1891 (1893), vol. XI, p. 207-258, pl. XXXVII-XLII. Doc. 210 issued Apr. 23, 1893. F12-126
- Gasch, Adolf:** [Increasing the natural food in carp ponds.] Report, 1880 (1883), p. 537.
 ——— Pond culture. The food and spawning of carp. Report, 1883 (1885), p. 1143-1150. F17-41
- Gillespie, Samuel:** Growth and food of carp. Bulletin, 1882 (1883), vol. II, p. 300. F18-105
- Goode, George Brown:** [Food of the menhaden.] Report, 1877 (1879), p. 93-95.
 ——— [Food of the swordfish.] Report, 1880 (1883), p. 320-330.
 ——— [Food of the mackerel.] Report, 1881 (1884), p. 105-111.
 ——— Food of the cod. In *The fisheries and fishery industries of the United States*. 1884. Sec. I, pt. III, p. 212-214.
- Haack, Hermann:** [First food of young salmonoids.] Report, 1879 (1882), p. 690-691.
- Harz, C. O.:** On manufactured food for trout and carp. Bulletin, 1884 (1884), vol. IV, p. 449-453. F18-121
- Hawkins, J. W.:** [Menhaden as a food for other fish.] Bulletin, 1881 (1882), vol. I, p. 266-268.
- Henshall, James Alexander:** Culture of the Montana grayling. (Feed the fry: p. 6-7.) Report and special papers, 1906 (1908), 7 p. Doc. 628 issued Dec. 11, 1907. 7-35451
- Hildebrand, Samuel Frederick:** Fishes in relation to mosquito control in ponds. Appendix VI, Report, 1918 (1920), 15 p., illus., VI pl. Doc. 874 issued Sept. 23, 1919. F19-38
- Johnson, Robert Sidney, and M. F. Stapleton:** Fish ponds on farms. (Natural and artificial fish foods: p. 19-20.) Appendix II, Report, 1915 (1917), 28 p., XIX pl. Doc. 826 issued Dec. 15, 1915. F16-79
- Juday, Chancey:** [The food of the trout of the Kern River region.] Bulletin, 1905 (1906), vol. XXV, p. 43-49.
 ——— [Food of the trout in Lake Tahoe.] Bulletin, 1906 (1907), vol. XXVI, p. 142-143.
 ——— A study of Twin Lakes, Colorado, with especial consideration of the food of the trouts. ("Bibliography": p. 175-178.) Bulletin, 1906 (1907), vol. XXVI, p. 147-178, pl. III. Doc. 616 issued May 24, 1907. F11-64
- K., Baron von:** Fish-culture as a means of improving the race of fish. Bulletin, 1885 (1885), vol. V, p. 289-291. F18-443
- Kendall, William Converse:** Notes on the food of four species of the cod family. Report, 1896 (1897), p. 177-186. Doc. 340 issued May 29, 1897. F11-177
 ——— [Food of the silversides.] Report, 1901 (1902), p. 247-255.
 ——— [Food and feeding habits of some of the commercial catfishes.] Bulletin, 1902 (1904), vol. XXII, p. 404-406.
 ——— American catfishes: habits, culture, and commercial importance. (Food and feeding habits: p. 12-15.) Report and special papers, 1908 (1910), 39 p., X pl. Doc. 733 issued Aug. 23, 1910. 10-35947
 ——— [Food and feeding time of trout in Rangeley Lakes.] Bulletin, 1915-16 (1918), vol. XXXV, p. 543-545.
- Kerr, John W.:** [Food of whitefish of Lake Erie and Lake Ontario.] Report, 1872-73 (1874), p. 80-81.
- Kiel, Peter:** [Food of whitefish of Lake Ontario.] Report, 1872-73 (1874), p. 82 and 84.
- Kochs, W.:** [Experiments with artificial propagation of minute crustaceans.] Bulletin, 1894 (1895), vol. XIV, p. 306-308.
- Koss, R. A.:** [Food of trout.] Bulletin, 1883 (1883), vol. III, p. 473.
- Lahaway:** [The larvæ of mosquitoes as food for carp.] Bulletin, 1884 (1884), vol. IV, p. 310.
- Lanman, Charles:** [Food of the whitefish of eastern Maine and New Brunswick.] Report, 1872-73 (1874), p. 85-86.
- Lee, Leslie A.:** [Food of fishes off southern New England.] Report, 1881 (1884), p. lix.
- Linton, Edwin:** [Stomach contents of fish collected at Woods Hole.] Bulletin, 1899 (1901), vol. XIX, p. 270-284.

- Linton, Edwin: [Stomach contents of the fishes of the Woods Hole region.] Bulletin, 1899 (1901), vol. XIX, p. 425-488.
- [Notes on the food of fifty-nine species of Beaufort fishes.] Bulletin, 1904 (1905), vol. XXIV, p. 339-416.
- [Food of the hammerhead shark and the butterflyfish.] Bulletin, 1906 (1907), vol. XXV, p. 127-129.
- Ljungman, Axel Vilhelm: [Food of herring.] Report, 1878 (1880), p. 181-182.
- [The food of the herring.] Report, 1879 (1882), p. 506.
- McDonald, Marshall: [Artificial food for young shad.] Report, 1892 (1894), p. LXI.
- Marenzeller, Emil, edler von: [The feeding of young trout and saibling.] Report, 1879 (1882), p. 657-658.
- Marsh, M. C.: [Most important food of young shad.] Report, 1898 (1899), p. CXXXIX.
- Marshall, William Stanley, and N. C. Gilbert: Notes on the food and parasites of some fresh-water fishes from the lakes at Madison, Wis. (Bibliography: p. 522.) Report, 1904 (1905), p. 513-522. *Doc. 591 issued Dec. 29, 1905.* F10-13
- Mason, Frank Holcomb: Self-reproducing food for young fish. Bulletin, 1887 (1889), vol. VII, p. 203-206. F18-669
- Mather, Fred: [Food for soles.] Bulletin, 1886 (1887), vol. VI, p. 450.
- Milner, James W.: [Food of the whitefish.] Report, 1872 and 1873 (1874), p. 44-46.
- Möbius, Karl August: The food of marine animals. Report, 1879 (1882), p. 485-489. F17-4
- Moore, Henry Frank: [Food of herring.] Report, 1896 (1898), p. 401-403.
- Mordecai, E. R.: Food of the shad of the Atlantic coast of the United States (*Alosa præstabilis* De Kay); and the functions of the pyloric cæca. Bulletin, 1881 (1882), vol. I, p. 277-282. F12-322
- Mosher, Gideon: Do striped bass (*Roccus lineatus*) feed on Menhaden? Bulletin, 1883 (1883), vol. III, p. 410. F18-154
- Myers, A. H.: [A shark's bill of fare.] Bulletin, 1885 (1885), vol. V, p. 347.
- Needham, James G.: [Mayflies as food for fish.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 270-271.
- New York Commissioner of Fisheries: [The quantity of food fish require.] Quoted by Wergeland. Report, 1878 (1880), p. 583-589.
- Nicklas, Carl: Feeding carp with Indian corn. Bulletin, 1882 (1883), vol. II, p. 168. F18-96
- The artificial feeding of carp. Report, 1882 (1884), p. 1009-1031. F16-324
- On manufactured food for trout and carp. Bulletin, 1884 (1884), vol. IV, p. 453-455. F13-122
- [Feeding carp artificially.] Report, 1884 (1886), p. 563-587.
- Nye, Willard: Habits of whitening or frost-fish (*Merluccius bilinearis* Mitch.). Bulletin, 1886 (1887), vol. VI, p. 208. F18-577
- Oesterbol, A.: Fish and Medusæ. Bulletin, 1885 (1885), vol. V, p. 331-332. F18-469
- Page, Wm. F.: [Artificial food for fish, used at Neosho.] Report, 1892 (1894), p. LIII-LIV.
- Feeding and rearing fishes, particularly trout, under domestication. (Bibliography: p. 312-314.) Bulletin, 1894 (1895), vol. XIV, p. 289-314. *Doc. 294 issued May 22, 1895.* 12-17377
- [The natural food of the black basses, crappies, and rock bass.] Report, 1897 (1898), p. 164.
- Paige, Charles L.: The comparative value of foods for rainbow trout and other salmonoids. Bulletin, 1908 (1910), vol. XXVIII, p. 795-798. *Doc. 679 issued Apr. 1910.* 10-35419
- Pancritius, P.: On the food and digestion of German fish. Bulletin, 1886 (1887), vol. VI, p. 145-148. F18-561
- Pearse, Arthur Sperry: The food of the shore fishes of certain Wisconsin lakes. (Bibliography: p. 291-292.) Bulletin, 1915-16 (1918), vol. XXXV, p. 247-292, incl. tables, illus. *Doc. 856 issued Jan. 9, 1918.* F18-6
- Habits of the black crappie in inland lakes of Wisconsin. (Bibliography: p. 15-16.) Appendix III, Report, 1918 (1920), 16 p. incl. cover illus. *Doc. 867 issued June 24, 1919.* F19-29
- Pearse, A. S., and Henrietta Achtenberg: [Food of fishes in Wisconsin lakes.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 300-320. tables 6-22.
- Peck, James I.: On the food of the menhaden. Bulletin, 1893 (1894), vol. XIII, p. 113-126, 8 pl. *Doc. 251 issued June 26, 1894.* F12-183

- Peck, James I.:** The sources of marine food. Bulletin, 1895 (1896), vol. XV, p. 351-368, pl. 64-71. *Doc. 307 issued Apr. 11, 1897.* F12-248
- Quattlebaum, Paul:** Method of catching carp with a hook. Bulletin, 1884 (1884), vol. IV, p. 380. F18-338
- Radcliffe, Lewis:** Fishes destructive to the eggs and larvæ of mosquitoes. (Bibliography: p. 19.) 19 p., illus. *Economic Circular 17 issued July 1, 1915.* F15-78
- Rathbun, Richard:** [Notice of the small surface organisms taken in the tow nets and of the contents of mackerel stomachs.] Bulletin, 1887 (1889), vol. VII, p. 259-267. — [Food of food-fish at Woods Hole.] Report, 1894 (1896), p. 97.
- Raveret-Wattel, C.:** [Daphniæ raised at] the piscicultural establishment at Gremas (Ain), France. Bulletin, 1887 (1889), vol. VII, p. 207-211. F18-270
- Reighard, Jacob E.:** Some plankton studies in the Great Lakes. Bulletin, 1893 (1894), vol. XIII, p. 127-142, pl. *Doc. 252 issued June 26, 1894.* F12-183
- Rutter, Cloudsley:** [Food of young salmon.] Bulletin, 1902 (1904), vol. XXII, p. 110-119.
- Ryder, John Adam:** The Protozoa or Protophytes considered as the primary or indirect source of the food of fishes. Bulletin, 1881 (1882), vol. I, p. 236-251. F12-336
- [The food of the shad.] Bulletin, 1881 (1882), vol. I, p. 247-251.
- Observations on the absorption of the yolk, the food, the feeding, and development of embryo fishes, comprising some investigations conducted at the Central hatchery, Armory building, Washington, D. C., in 1882. Bulletin, 1882 (1883), vol. II, p. 179-205, illus. F12-357
- The Protozoa and Protophytes considered as the primary or indirect source of the food of fishes. Report, 1881 (1884), p. 755-770. F16-338
- [Sources of food of sturgeons.] Bulletin, 1888 (1890), vol. VIII, p. 262-265.
- Sars, George Ossian:** [Association of cod with Medusæ.] Report, 1877 (1879), p. 590-593.
- Schwaab, Dr.:** Live food for young fish. Bulletin, 1885 (1885), vol. V, p. 277-280. F18-437
- Seagle, G. A.:** [Food for the rainbow trout.] Report, 1897 (1898), p. 82-83.
- Seal, William P.:** Fishes in their relation to the mosquito problem. Bulletin, 1908 (1910), vol. XXVIII, p. 831-838. *Doc. 683 issued April, 1910.* 10-35562
- Sekizawa, Akecio:** [Food used for young fish in Japan.] Report, 1879 (1882), p. 646
- Simms, George E.:** [*Tubifex rivulorum* for feeding fry.] Bulletin, 1908 (1910), vol. XXVIII, p. 1022-1023.
- Smith, Hugh McCormick:** [Food for artificially hatched fish.] Report, 1897 (1898), p. CXXII-CXXIII.
- [Food for carp, buffalo-fish, and catfish.] Report, 1901 (1902), p. 119-120.
- Smith, Sidney Irving:** Food of fresh-water fishes. Report, 1872-3 (1874), p. 708-709. *Doc. 7 issued 1874.* F12-216
- Stearns, Silas:** [Food of red snappers and pompanos.] Bulletin, 1884 (1884), vol. IV, p. 290.
- Stone, Livingston:** [Food of the Sacramento salmon.] Report, 1872-3 (1874), p. 190.
- [Artificial food for salmon fry.] Report, 1897 (1898), p. 21-22.
- Thatcher, James K. and Smith, Sidney I.:** [Stomachs of salmon and their contents.] Report, 1872-3 (1874), p. 371.
- Thorsteinson, A.:** [Food of codfish.] Report, 1884 (1886), p. 322.
- U. S. Bureau of Fisheries:** [Natural food of young bass.] Report, 1896 (1898), p. 43.
- [Food and enemies of the mackerel.] Report, 1897 (1898), p. 210-211; also in *Manual of fish-culture*, rev. ed., 1900, p. 212-213.
- U. S. Commissioner of Fisheries:** [Food of dogfishes.] Report, 1905 (1907), p. 24-25.
- Verrill, A. E.:** [Lists of species found in the stomachs of fishes—Food of fishes.] Report, 1871-72 (1873), p. 514-521.
- Wergeland, N.:** [Living organisms used for fish food.] Report, 1878 (1880), p. 573-580.
- [Eggs and young fish as food of fishes.] Report, 1878 (1880), p. 549-550.
- Widgren, Hjalmar:** [Food of codfish.] Report, 1878 (1880), p. 136-137.
- [The food of young and full-grown herring.] Report, 1877 (1879), p. 127-128.
- Wilson, Charles Branch:** [Larvæ of Arguli as food for surface fish.] Bulletin, 1904 (1905), vol. XXIV, p. 120-121.
- [Odonates as food of fish.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 224-232.
- Winslow, George:** [The principal food of bluefish.] Report, 1871-72 (1873), p. 47.
- Worth, Stephen G.:** [Bass prove voracious feeders.] Report, 1893 (1895), p. 97.
- [Food of shad.] Report, 1897 (1898), p. 136-154; also in *Manual of fish-culture*, rev. ed., 1900, p. 124.

- Worth, Stephen G.: Fresh-water shrimp, a natural fish food. Bulletin, 1908 (1910), vol. XXVIII, p. 853-858. *Doc. 685 issued Apr., 1910.* 10-35418
- Wozelka-Iglau, Karl: Contributions toward the improvement of the culture of the salmonoids and crawfish in smaller water-courses. Bulletin, 1895 (1896), vol. XV, p. 369-373, pl. 72. *Doc. 308 issued 1896.* F12-250
- Zacharias, Otto, i. e. Emil Otto: Some of the life needs of fish. Bulletin, 1886 (1887), vol. VI, p. 445-447. F18-629

PATHOLOGY AND PATHOLOGICAL CONDITIONS.

. DISEASES.

- Atkins, Charles G.: [Diseased condition of salmon eggs.] Report, 1873-75, (1876), p. 488-489.
- Bean, Tarleton Hoffman: [Fungus and parasites destroy salmon fry.] Report, 1894 (1896), p. 60-61.
- [Epidemic among trout at Northville.] Report, 1894 (1896), p. 61.
- Clinton, G. P.: Observations and experiments on Saprolegnia infesting fish. (Bibliography p. 171-172. Bulletin, 1893 (1894), vol. XIII, p. 163-172. *Doc. 253 issued June 26, 1894.* F12-183
- Cole, Leon: [Diseases of carp.] Report, 1904 (1905), p. 579-584.
- Dean, Bashford: Recent experiments in sturgeon hatching on the Delaware River. Bulletin, 1893 (1894), vol. XIII, p. 335-339, illus. *Doc. 251 issued June 26, 1894.* F12-183
- Evermann, B. W.: [Disease at Cold Spring Harbor.] Report, 1904 (1905), p. 113.
- Forbes, S. A.: [Fungus parasites on fish in the aquarium of the United States Fish commission at the World's Columbian exposition.] Bulletin, 1893 (1894), vol. XIII, p. 145-158.
- Franke, Johann: Radical prevention of *Costia necatrix* in salmonoid fry. Bulletin, 1908 (1910), vol. XXVIII, p. 917-928. *Doc. 690 issued April, 1910.* 10-35438
- Gaylord, Harvey Russell, and Millard Caleb Marsh: Carcinoma of the thyroid in the salmonoid fishes. ("Bibliography": p. 519-524.) Bulletin, 1912 (1913), vol. XXXII, p. 363-524, illus., pl. LVI-CX (part. col.). *Doc. 790 issued Apr. 22, 1914.* F14-37
- Gorham, Frederic Poole: The gas-bubble disease of fish and its cause. Bulletin, 1899 (1901), vol. XIX, p. 33-37, pl. 12. *Doc. 431 issued Sept. 8, 1900.* F12-43
- Green, Loren W.: On a disease affecting the rainbow trout at McCloud River station. Bulletin, 1885 (1885), vol. V, p. 472. F18-513
- [Disease affecting rainbow trout at McCloud River station.] *Quoted by Stone.* Report, 1886 (1889), p. 738-739.
- Gurley, R. R.: On the classification of the Myxosporidia, a group of protozoan parasites infesting fishes. Bulletin, 1891 (1893), vol. XI, p. 407-420. *Doc. 215 issued July 14, 1893.* F12-157
- Holder, Charles Frederick: Methods of combating fungus diseases on fishes in captivity. Bulletin, 1908 (1910), vol. XXVIII, p. 933-936. *Doc. 692 issued April, 1910.* 10-35417
- Klotz, J. P. J.: [Maladies and enemies of the egg.] Report, 1880 (1883), p. 505-507.
- Linton, Edwin: On certain wart-like excrescences occurring on the short minnow, *Cyprinodon variegatus*, due to psorosperms. Bulletin, 1889 (1891), vol. IX, p. 99-102, pl. XXXV. *Doc. 154 issued June 11, 1891.* F12-142
- Marsh, Millard Caleb: A more complete description of *Bacterium truttae*. Bulletin, 1902 (1904), vol. XXII, p. 411-415, II pl. (partly fold.). *Doc. 533 issued Sept. 11, 1903.* F12-72
- Marsh, M. C., and F. P. Gorham: The gas disease in fishes. Report, 1904 (1905), p. 343-376, 3 pl. *Doc. 578 issued Aug. 28, 1905.* F10-6
- Nicklas, Carl: [Sickness and death among carp.] Report, 1884 (1886), p. 564-565.
- Ravenel, Wm. deC.: [Blindness among trout.] Report, 1898 (1899), p. LXVIII.
- Robinson, E. M.: [Destruction of salmon fry by fungus and parasites.] Report, 1894 (1896), p. 60-61.
- Rosenberg, Albert: Experience in abating disease among brook trout. Bulletin, 1908 (1910), vol. XXVIII, p. 941-945. *Doc. 694 issued April, 1910.* 10-35415
- Rutter, Cloudsley: [Injuries and diseases of the quinnat salmon.] Bulletin, 1902 (1904), vol. XXII, p. 138-141.
- Ryder, John Adam: On the retardation of the development of the ova of the shad (*Alosa sapidissima*), with observations on the egg-fungus and bacteria. Bulletin, 1881 (1882), vol. I, p. 177-190. F12-319

- Ryder, John Adam:** [Development of fungus on the ova of the shad.] Bulletin, 1881 (1882), vol. I, p. 181-184.
 — [Cause of the nondevelopment of fungus on the eggs hatched in the McDonald jar.] Bulletin, 1882 (1883), vol. II, p. 188.
 — [Experiments with carbolic acid to kill the fungus on large fishes.] Bulletin, 1882 (1883), vol. II, p. 191.
 — On the retardation of the development of ova in the shad (*Alosa sapidissima*), with observations on the egg fungus and bacteria. Report, 1881 (1884), p. 795-811. F16-342
- Seagle, George A.:** The artificial propagation of the rainbow trout. Bulletin, 1896 (1897), vol. VI, p. 237-256, illus., pl. 88-94. Doc. 319 issued Nov. 14, 1896. F12-111
- Seal, William P.:** Observations on the aquaria of the U. S. Fish commission at Central station, Washington, D. C. Bulletin, 1890 (1892), vol. X, p. 1-12, illus., IV pl. Doc. 186 issued Feb. 11, 1892. 7-1837
- Sickness of the goldfish in the Royal park, Berlin.** Report, 1878 (1880), p. 537-538. F16-190
- Smith, Hugh M.:** [Destruction of fresh-water fish by disease, in aquaria at Washington.] Report, 1897 (1898), p. CXXIII-CXXIV.
 — [Review of work by Bureau on diseases of fish.] Report, 1898 (1899), p. CXLIII; 1901 (1902), p. 124-127.
 — [Trout epidemic at Northville.] Report, 1899 (1900), p. CXLIV-CXLV.
- Spencer, Leonard B.:** Treatment of fungus on fishes in captivity. Bulletin, 1908 (1910), vol. XXVIII, p. 929-932. Doc. 691 issued April, 1910. 10-35423
- Stabrowski, Xaver von:** Carp culture in Germany. Bulletin, 1886 (1887), vol. VI, p. 57-59. F18-533
- Stirling, A. B.:** Notes on the fungus disease affecting salmon. Report, 1878 (1880), p. 525-529. F16-167
 — Additional observations on the fungus disease affecting salmon and other fish. Report, 1878 (1880), p. 531-536. F16-168
- Stone, Livingston:** [Fatal disease among salmon.] Report, 1881 (1884), p. 1063-1078.
- Titcomb, John W.:** [Diseases of fish at Nashua and Erwin.] Report, 1902 (1904), p. 34 and 48.
- Tower, Ralph Winfred:** Biliary calculi in the squeteague. Bulletin, 1901 (1902), vol. XXI, p. 131-135, pl. XXI. Doc. 498 issued May 23, 1902. F12-413
- U. S. Commissioner of Fisheries:** [Investigation by the Bureau of fish diseases.] Report, 1906 (1908), p. 14; 1918 (1920), p. 24-26.
- Valery-Mayet:** Hatching salmon eggs at Montpelier, France, and trouble with fungus. Bulletin, 1885 (1885), vol. V, p. 272. F18-434
- Vincent, Eugene:** Causes of disease in young salmonoids. Bulletin, 1908 (1910), vol. XXVIII, p. 907-916. Doc. 689 issued April, 1910. 10-35564
- Walpole, Spencer, and T. H. Huxley:** Diseases among the salmon of many rivers in England and Wales. Bulletin, 1881 (1882), vol. I, p. 429-448. F12-341
- Zirzow, Paul:** A new method of combating fungus on fishes in captivity. Bulletin, 1908 (1910), vol. XXVIII, p. 937-940. Doc. 693 issued April, 1910. 10-35416

MORTALITY.

- Atkins, Charles G.:** [Protrusion of the eye among the Penobscot salmon in 1881-82.] Report, 1881 (1884), p. 1085.
- Baird, S. F.:** [Mortality of fish.] Report, 1884 (1886), p. XLII-XLIII.
- Bean, Tarleton:** [Fish killed by thunder and struck by lightning.] Report, 1894 (1896), p. 61.
- Brown, J. J.:** [Sawdust injurious to fish.] Bulletin, 1885 (1885), vol. V, p. 111.
- Chamberlain, T.:** [Mortality among California salmon.] Report, 1901 (1902), p. 117-119.
- Cheever, Henry T.:** [Movements of a school of herring.] Bulletin, 1885 (1885), vol. V, p. 87-88.
- Collins, J. W.:** [Mortality among the tilefish.] Report, 1882 (1884), p. 253-253.
- Dunning, Philo:** Two hundred tons of dead fish, mostly perch, at Lake Mendota. Wisconsin, Bulletin, 1884 (1884), vol. IV, p. 439-443. F13-120
- Evermann, Barton Warren:** [Fish killed by slimy sponge.] Report, 1884 (1886), p. 329.
 — [Excess of nitrogen and deficiency of oxygen at Nashua.] Report, 1904 (1905), p. 109-112.
 — [Mortality among trout fry at Allentown.] Report 1904 (1905), p. 112.
 — [Menhaden mortality in Narraganset Bay.] Report, 1904 (1905), p. 113.

- Forbes, S. A.:** Preliminary report upon the invertebrate animals inhabiting lakes Geneva and Mendota, Wisconsin, with an account of the fish epidemic in Lake Mendota in 1884. Bulletin, 1888 (1890), vol. VIII, p. 473-494, pl. LXXII-LXXIV
Doc. 147 issued Mar. 25, 1891. F11-328
- Glennan, A. H.:** Fish killed by poisonous water. Bulletin, 1886 (1887), vol. VI, p. 10-11. F12-524
- Goode, G. Brown:** [Mortality of menhaden in Merrimac River.] Report, 1877 (1879), p. 101.
- Hessel, Rudolph:** [Street dust injurious to carp.] Bulletin, 1885 (1885), vol. V, p. 102.
- Hubner, A.:** [Harm to eggs and fry.] Bulletin, 1886 (1887), vol. VI, p. 187-190.
- Johnson, R. S.:** [Epidemic at Manchester.] Report, 1900 (1901), p. 72-73.
- Klotz, J. P. J.:** [Maladies and enemies of fish eggs.] Report, 1880 (1883), p. 505-507.
- Knowles, Herbert M.:** Dead fish on the coast of Rhode Island. Bulletin, 1886 (1887), vol. VI, p. 194-195. F18-571
- Leslie, Charles C.:** Scarcity of blackfish—Mortality of codfish. Bulletin, 1882 (1883), vol. II, p. 132. F18-90
- McDonald, Marshall:** Effect of waste products from Page's ammoniacal works upon young shad fry. Bulletin, 1885 (1885), vol. V, p. 313-314. F18-460
- Report on the pollution of the Potomac River by the discharge of waste products from gas manufacture. Bulletin, 1885 (1885), vol. V, p. 125-126. F18-334
- Mazyck, W. St. J.:** [Dead fish along the coast of South Carolina.] Bulletin, 1886 (1887), vol. VI, p. 413.
- Miller, N. B.:** [Report on unprecedented destruction of fish life along the southern California coast.] Report, 1894 (1896), p. 217-218.
- Narragansett Herald:** [Oily water along the coast of North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 194-195.
- Pearson, John M.:** [Fish killed by suffocation.] Bulletin, 1886 (1887), vol. VI, p. 452-453.
- Pierce, H. D.:** An opinion of the cause of mortality of fish in the Gulf of Mexico. Bulletin 1883 (1883), vol. III, p. 332. F18-143
- Notes on the bluefish, mortality of Florida fishes, etc. Bulletin, 1884 (1884), vol. IV, p. 263-266. F18-307
- Poisoned water in the Gulf of Mexico.** Bulletin, 1882 (1883), vol. II, p. 104. F18-93
- Rathbun, Richard:** [Mortality of the alewife in Lake Ontario.] Report, 1893 (1895), p. 49.
- [Mortality of salmon after spawning.] Report, 1899 (1900), p. 277-280.
- Rowley:** [Dead fish.] Bulletin, 1884 (1884), vol. IV, p. 361.
- Smith, Hugh McCormick:** [Mortality of alewives in Lake Ontario.] Bulletin, 1890 (1892), vol. X, p. 190-192.
- [Mortality among brood cod at Woods Hole.] Report, 1898 (1899), p. CXLIV-CXLV.
- Stone, Livingston:** Mortality of McCloud River salmon in 1881. Bulletin, 1881 (1882), vol. I, p. 134. F18-32
- [Mortality among trout due to mud.] Report, 1881 (1884), p. 1079-1083.
- Stranahan, J. J.:** [Mortality among fish eggs.] Bulletin, 1897 (1898), vol. XVII, p. 318.
- Taylor, Harden Franklin:** Mortality of fishes on the west coast of Florida. (Bibliography: p. 23-24.) Appendix III, Report, 1917 (1919), 24 p., IV pl. *Doc. 848 issued June 13, 1917.* F17-240
- Taylor J. Manigault:** [Dead fish along the coast of South Carolina.] Bulletin, 1886 (1887), vol. VI, p. 413-414.
- U. S. Bureau of Fisheries:** [Destruction of young bass by Dytiscidae.] Report, 1897 (1898), p. L.
- Washburn, F. L.:** [Death during summer season of fish in Lake Mille Lac, Minnesota.] Quoted by C. B. Wilson. Bulletin, 1904 (1905), vol. XXIV, p. 119.
- Washington Post:** [Dead fish in Shallotte River, North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 140-141.
- Webb, John G.:** The mortality of fish in the Gulf of Mexico. Bulletin, 1886 (1887) vol. VI, p. 11-13. F18-525
- Weigett, C., O. Sacre, and L. Schwab:** [Poisonous effects of sewage on fish.] Bulletin, 1886 (1887), vol. VI, p. 144.

- White, B. B.: [Disease affecting speckled catfish.] Bulletin, 1886 (1887), vol. VI, p. 404.
- Wilcox, Joseph: Fish killed by cold along the Gulf of Mexico and coast of Florida. Bulletin, 1886 (1887), vol. VI, p. 123. F18-557
- Wright, R. Ramsey: [Mortality of Coregonus in Lake of the Woods.] Quoted by C. B. Wilson. Bulletin, 1904 (1905), vol. XXIV, p. 119.

PARASITES.

- Cole, Leon J.: [Parasites of carp.] Report, 1904 (1905), p. 579-584.
- Davis, H. S.: Myxosporidia of the Beaufort region. A systematic and biologic study. (Bibliography: p. 238.) Bulletin, 1915-16 (1918), vol. XXXV, p. 201-243, illus., pl. XVI-XXIV. Doc. 855 issued Dec. 17, 1917. F18-2
- Forbes, S. A.: [Kidney parasites cause death of fish.] Report, 1886 (1889), p. 739-740.
- Goode, G. Brown: [Parasites of the Menhaden.] Report, 1877 (1879), p. 101-104.
- [Parasites of the swordfish.] Report, 1880 (1883), p. 342-347.
- Gurley, R. R.: On the classification of the Myxosporidia, a group of protozoan parasites infesting fishes. Bulletin, 1891 (1893), vol. XI, p. 407-420. Doc. 215 issued July 14, 1893. F12-157
- The Myxosporidia, or Psorosperms of fishes, and the epidemics produced by them. Report, 1892 (1894), p. 65-304, incl. tables, 47 pl. Doc. 285 issued Dec. 27, 1894. F14-42
- Hahn, Clarence Wilson: Sporozoön parasites of certain fishes in the vicinity of Woods Hole, Massachusetts. (Bibliography: p. 210-211.) Bulletin, 1913 (1915), vol. XXXIII, p. 191-214, pl. XX-XXI. Doc. 810 issued Apr. 29, 1915. F15-38
- Kendall, William Converse: The fishes of the Yellowstone national park. (Parasites: p. 7-9.) Appendix VIII, Report, 1914 (1915), 28 p. Doc. 818 issued July 16, 1915. F15-79
- Kerbert, C.: *Chromatophagus parasiticus*—A contribution to the natural history of parasites. Report, 1884 (1886), p. 1127-1136. F17-140
- Lefevre, George, and Winterton Conway Curtis: [Experimental infection of fishes with glochidia.] Bulletin, 1908 (1910), vol. XXVIII, p. 622-626.
- Linton, Edwin: Notes on Entozoa of marine fishes of New England, with descriptions of several new species. Report, 1886 (1889), p. 453-511, VI. pl. Doc. 128 issued 1889. F11-255
- On two species of larval Dibothria from the Yellowstone national park. Bulletin, 1889 (1891), vol. IX, p. 65-79, pl. XXIII-XXVII. Doc. 150 issued June 5, 1891. F12-13..
- On certain wart-like excrescences occurring on the short minnow, *Cyprinodon variegatus*, due to psorosperms. Bulletin, 1889 (1891), vol. IX, p. 99-102, pl. XXXV. Doc. 154 issued June 11, 1891. F12-1428
- A contribution to the life history of *Dibothrium cordiceps*, a parasite infesting the trout of Yellowstone Lake. Bulletin, 1889 (1891), vol. IX, p. 337-358, pl. CXVII-CXIX. Doc. 164 issued June 17, 1891. F12-152
- Notice of the occurrence of protozoan parasites (Psorosperms) on cyprinoid fishes in Ohio. Bulletin, 1889 (1891), vol. IX, p. 359-361, pl. CXX. Doc. 165 issued July 7, 1891. F12-153
- Notes on Entozoa of marine fishes of New England, with descriptions of several new species. Part II. Report, 1887 (1891), 182 p., XV pl. Doc. 175 issued Aug. 24, 1891. F11-337
- Notes on the Entozoa of marine fishes, with descriptions of new species. Part III. Report, 1888 (1892), p. 523-542, pl. LIII-LX. Doc. 182 issued July 1, 1892. F12-224
- Fish Entozoa from Yellowstone national park. Report, 1889-91 (1893), p. 545-564, pl. 63-67. Doc. 220 issued Oct. 25, 1893. F12-230
- Some observations concerning fish parasites. Bulletin, 1893 (1894), vol. XIII, p. 101-112. Doc. 250 issued June 26, 1894. F12-183
- An economical consideration of fish parasites. (Partial list of American authorities on fish parasites, especially such as have been published by the U. S. Fish commission and the U. S. National museum: p. 199.) Bulletin, 1897 (1898), vol. XVII, p. 193-199. Doc. 370 issued Aug. 8, 1898. F12-110
- Fish parasites collected at Woods Hole in 1898. Bulletin, 1899 (1901), vol. XIX, p. 267-304, pl. 33-43. Doc. 446 issued Sept. 1, 1900. F12-87
- Parasites of fishes of the Woods Hole region. (List of papers referred to in text: p. 424.) Bulletin, 1899 (1901), vol. XIX, p. 405-492, XXXIV pl. Doc. 457 issued June 27, 1900. F12-88

- Linton, Edwin:** Parasites of fishes of Beaufort, North Carolina. Bulletin, 1904 (1905), vol. XXIV, p. 321-428, XXXIV pl. *Doc. 583 issued Oct. 19, 1905.* F12-12
- A cestode parasite in the flesh of the butterfish. (Other hosts of the parasite collected at Woods Hole, Beaufort, Tortugas, and Bermuda: p. 122-126.) Bulletin 1906 (1907), vol. XXV, p. 111-132, pl. I-II. *Doc. 611 issued May 11, 1907.* F11-62
- Notes on the flesh parasites of marine food fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1195-1209. *Doc. 714 issued April, 1910.* 10-35559
- McDonald, Marshall:** [Copepods injurious to cod eggs and fry.] Report, 1889-1891 (1893), p. 27. F10-13
- Marshall, William Stanley, and N. C. Gilbert:** Notes on the food and parasites of some fresh-water fishes from the lakes at Madison, Wis. (Bibliography: p. 522.) Appendix, Report, 1904 (1905), p. 513-522. *Doc. 591 issued Dec. 29, 1905.* F10-13
- Milner, James W.:** [Parasites of the whitefish. Parasites of the sturgeon.] Report, 1872-73 (1874), p. 64-74.
- Pearse, A. S., and Henrietta Achtenberg:** [Parasites of yellow perch.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 333-335.
- Pratt, H. S.:** Parasites of fresh-water fishes. Comprising some general considerations. 8 p., illus. *Economic Circular 43 issued Mar. 29, 1919.* F19-5
- Ryder, John Adam:** On a skin parasite of the cunner (*Ctenolabrus adspersus*). Bulletin, 1884 (1884), vol. IV, p. 37-42. F13-80
- Smith, Hugh M.:** [Destructive parasites in Central station aquaria.] Report, 1897 (1898), p. CXXIII-CXXIV.
- Stiles, Charles Wardell:** Report on a parasitic protozoan observed on fish in the aquarium of the U. S. Fish commission at the World's Fair. (Bibliography: p. 175.) Bulletin, 1893 (1894), vol. XIII, p. 173-190. *Doc. 253 issued June 29, 1894.* F12-183
- Surber, Thaddeus:** Notes on the natural hosts of fresh-water mussels. Bulletin, 1912 (1913), vol. XXXII, p. 101-116, pl. XXIX-XXXI. *Doc. 773 issued June 28, 1913.* F13-218
- U. S. Bureau of Fisheries:** Information concerning parasitic worms in fish. (Statements by Prof. Edwin Linton and Dr. C. W. Stiles.) 3 p. *Economic Circular 21 issued Oct. 14, 1916.* F16-305
- Ward, Henry Baldwin:** Internal parasites of the Sebago salmon. (Bibliography: p. 1192-1194.) Bulletin, 1908 (1910), vol. XXVIII, p. 1151-1194, pl. CXXI. *Doc. 713 issued April, 1910.* 10-35558
- Wilson, Charles Branch:** The fish parasites of the genus *Argulus* found in the Woods Hole region. Bulletin, 1904 (1905), vol. XXIV, p. 115-131, illus. *Doc. 561 issued Feb. 14, 1905.* F12-5
- Copepod parasites of fresh-water fishes and their economic relations to mussel glochidia. Bulletin, 1914 (1916), vol. XXXIV, p. 331-374, pl. LX-LXXIV. *Doc. 824 issued June 28, 1916.* F16-106
- The economic relations, anatomy, and life history of the genus *Lernaea*. Bulletin, 1915-16 (1918), vol. XXXV, p. 165-198, illus., pl. VI-XV. *Doc. 854 issued Dec. 22, 1917.* F18-4

POLLUTION.

- Forbes, S. A.:** [Pollutions in the Wabash River from oil wells.] Quoted by Rathbun: Report, 1894 (1896), p. 109-112.
- Kendall, William Converse:** Notes on the fresh-water fishes of Washington county, Maine. Bulletin, 1894 (1895), vol. XIV, p. 43-54. *Doc. 236 issued Mar. 24, 1894.* F12-173
- Landmark, Anthon, i. e. Even Anthon Thomas:** Is sawdust injurious to the fisheries. Report, 1879 (1882), p. 625-632. F17-10
- McDonald, Marshall:** Report on the pollution of the Potomac River by the discharge of waste products from gas manufacture. Bulletin, 1885 (1885), vol. V, p. 125-126. F18-364
- Effect of waste products from Page's ammoniacal works upon young shad fry. Bulletin, 1885 (1885), vol. V, p. 313-314. F18-460
- Malmgren, A. J.:** The injurious effects of rafting on the lake and river fisheries of Sweden. Bulletin, 1885 (1885), vol. V, p. 264-267. F18-430
- Marsh, Millard Caleb:** The effect of some industrial wastes on fishes. 1907. (Reprint from the Potomac River basin, water-supply and irrigation paper no. 192, p. 337-348.) *Doc. 619 issued Apr. 16, 1907.* F14-4
- Milner, James W.:** [Pollution of Great Lakes from sawdust.] Report, 1872 and 1873 (1874), p. 19.

- Moore, H. F.:** [Pollution by offal discharged by sardine factories.] Report, 1896 (1898), p. 425-427.
- Nehrer:** [Chemical inquiry in the waters of Long Island Sound.] *Quoted by Rathbun.* Report, 1889-91 (1893), p. 118-119.
- Pitman, J. Talbot:** [Impurities of the water.] Report, 1871-72 (1873), p. 201.
- Rasch, Halvor Heyerdahl:** Is sawdust as serious an obstacle to the ascent of salmon in our rivers as is generally maintained? Report, 1878 (1880), p. 517-518. F16-165
- Rathbun, Richard:** [River pollution from wood pulp.] Report, 1892 (1894), p. CXXVI-CXXVII.
- [Pollution and refuse.] Report, 1899 (1900), p. 322-324.
- Reichardt, E.:** The purification of refuse water. Report, 1878 (1880), p. 519-524, illus. F16-166
- The injurious influence on pisciculture of the retting water of flax and hemp. Report, 1880 (1883), p. 545-550. F16-296
- Sars, George Ossian:** [Pollution by whale and fish refuse.] Report, 1880 (1883), p. 183-186.
- Shotwell, J. R.:** Method of purifying the residuum of gas-works before allowing it to pass off into the water. Report, 1875-76 (1878), p. 847-849, illus. F16-72
- Southwick, J. M. K.:** [Impurities of the water.] Report, 1871-72 (1873), p. 81-82.
- Spangler, A. M.:** The decrease of food-fishes in American waters and some of the causes. Bulletin, 1893 (1894), vol. XIII, p. 21-35. *Doc. 239 issued June 6, 1894.* F12-183
- Swett, S. B.:** Decrease of fish in Squamscot River, New Hampshire, on account of refuse matter from gas works. Bulletin, 1882 (1883), vol. II, p. 33. F12-344
- Talbot, Arthur W.:** [Waste matter deleterious to fish.] *Quoted by Rathbun.* Report, 1894 (1896), p. 112-114.
- Tölke, C.:** The pollution of public waters by refuse from factories. Report, 1879 (1882), p. 619-624. F20-145
- U. S. Commissioner of Fisheries:** [Effects of polluted Potomac water on fishes.] Report, 1903 (1905), p. 91-92.
- [Pollution of waters.] Report, 1914 (1915), p. 66.
- Watson, W. C.:** [Pollution of Lake Champlain by sawdust.] Report, 1873-75 (1876), p. 536.
- Zacharis, Otto, i. e. Emil Otto:** Some of the life needs of fish. Bulletin, 1886 (1887), vol. VI, p. 445-447. F18-629

PHYSIOLOGY.

- Greene, Charles Wilson:** Physiological studies of the chinook salmon. Bulletin, 1904 (1905), vol. XXIV, p. 429-456, incl. tables, illus. *Doc. 584 issued Nov. 2, 1905.* F12-13
- Sullivan, Michael X.:** The physiology of the digestive tract of elasmobranchs. (Bibliography: p. 24-27.) Bulletin, 1907 (1908), vol. XXVII, p. 1-27, pl. *Doc. 625 issued Oct. 15, 1907.* 7-35366
- Tower, Ralph Winfred:** The gas in the swim-bladder of fishes . . . Bulletin, 1903 (1902), vol. XXI, p. 125-135. *Doc. 498 issued May 23, 1902.* F12-411

AGE.

- Cockerell, Theodore Dru Alison:** Observations on fish scales. Bulletin, 1912 (1913), vol. XXXII, p. 117-174, illus., pl. XXXII-XL. *Doc. 779 issued Oct. 25, 1913.* F13-198
- Rich, Willis H.:** [Development of scales.] Bulletin, 1919-20 (192-), vol. XXXVII, p. 51-62.
- Taylor, Harden Franklin:** The structure and growth of the scales of the squeteague and the pigfish as indicative of life history. (Bibliography: p. 325-330.) Bulletin, 1914 (1915), vol. XXXIV, p. 285-330, illus., pl. L-LIX. *Doc. 823 issued Sept. 23, 1916.* F16-133

SENSE ORGANS.

- Cole, Leon Jacob:** [Special senses of the German carp.] Report, 1904 (1905), p. 553-556.
- Herrick, Charles Judson:** The organs and sense of taste in fishes. (Literature cited: p. 272.) Bulletin, 1902 (1904), vol. XXII, p. 237-272, illus. *Doc. 527 issued July 20, 1903.* F12-86

- Parker, George Howard:** Hearing and allied senses in fishes. (List of references: p. 64.) Bulletin, 1902 (1904), vol. XXII, p. 45-64, pl. 9. *Doc. 514 issued Feb. 26, 1903.* F12-58
- The function of the lateral-line organs in fishes. (List of references: p. 204-207.) Bulletin, 1904 (1905), vol. XXIV, p. 133-207. *Doc. 563 issued Feb. 18, 1905.* F12-7
- Structure and functions of the ear of the squeteague. (Bibliography: p. 1222-1224.) Bulletin, 1908 (1910), vol. XXVIII, p. 1211-1224, pl. CXXII. *Doc. 715 issued May 5, 1910.* 10-35606
- Influence of the eyes, ears, and other allied sense organs on the movements of the dogfish, *Mustelus canis* (Mitchill). (List of references: p. 55-57.) Bulletin 1909 (1911), vol. XXIX, p. 43-58. *Doc. 738 issued Nov. 10, 1910.* F20-1
- Effects of explosive sounds, such as those produced by motor boats and guns, upon fishes. Report and special papers, 1911 (1913), 9 p. *Doc. 752 issued Oct. 12, 1911.* F11-369
- Sound as a directing influence in the movement of fishes. Bulletin, 1910 (1912), vol. XXX, p. 97-104. *Doc. 755 issued Apr. 27, 1912.* F12-78
- The directive influence of the sense of smell in the dogfish. (Bibliography: p. 68.) Bulletin, 1913 (1915), vol. XXXIII, p. 61-68. *Doc. 798 issued Aug. 8, 1914.* F14-99
- Parker, George Howard, and Ralph Edward Sheldon:** The sense of smell in fishes. (Literature cited: p. 45-46.) Bulletin, 1912 (1914), vol. XXXII, p. 33-46. *Doc. 775 issued May 3, 1913.* F13-71
- Ryder, John Adam:** [Sense organs of the toad-fish and gurnard.] Report, 1888-89 (1892), p. 516.

METABOLISM.

GROWTH.

- Bowers, Luther J.:** [Growth of carp.] Bulletin, 1886 (1887), vol. VI, p. 144.
- Brakeley, John H.:** Rapid growth of carp due to abundance of food. Bulletin, 1887 (1889), vol. VII, p. 20.
- Chamberlain, Frederick M.:** Some observations on salmon and trout in Alaska. (Growth: p. 34.) Report and special papers, 1906 (1908), 112 p. *Doc. 627 issued Dec. 18, 1907.* 7-35437
- Clark, A. Howard:** [Growth of carp.] Bulletin, 1886 (1887), vol. VI, p. 316-317.
- Cole, Leon Jacob:** [Growth of the German carp.] Report, 1904 (1905), p. 535.
- Crozier, William J., and Selig Hecht:** Correlations of weight, length, and other body measurements in the weakfish, *Cynoscion regalis*. Bulletin, 1913 (1915), vol. XXXIII, p. 141-147, illus. *Doc. 800 issued Sept. 17, 1914.* F14-101
- Eigenmann, Carl H.:** [Rate of growth of the young squeteague.] Bulletin, 1901 (1902), vol. XXI, p. 47.
- England, National Fish-Culture Association:** [Growth of salmon and whitefish.] Bulletin, 1886 (1887), vol. VI, p. 314
- Gilbert, Charles Henry:** Age at maturity of the Pacific coast salmon of the genus *Oncorhynchus*. Bulletin, 1912 (1913), vol. XXXII, p. 1-22, pl. I-XVII. *Doc. 767 issued Mar. 20, 1913.* F13-70
- Greene, Charles Wilson:** The storage of fat in the muscular tissue of the king salmon and its resorption during the fast of the spawning migration. Bulletin, 1913 (1915), vol. XXXIII, p. 69-138, pl. III-XI. *Doc. 799 issued Sept. 10, 1914.* F14-100
- The fat-absorbing function of the alimentary tract of the king salmon. Bulletin, 1913 (1915), vol. XXXIII, p. 149-175, pl. XII-XV. *Doc. 802 issued Oct. 28, 1914.* F14-104
- Hessel, Rudolph:** [Growth of carp.] Bulletin, 1886 (1887), vol. VI, p. 457.
- [A large California salmon.] Bulletin, 1886 (1887), vol. VI, p. 459.
- Miescher-Rüsch, F.:** Contribution to the biology of the Rhine salmon. Report, 1880 (1883), p. 427-474. F16-292
- Nicklas, Carl:** [Necessary proportion of nutritive matter in the artificial feeding of carp.] Report, 1882 (1884), p. 1009-1031. F16-324
- Page, William F.:** Feeding and rearing fishes, particularly trout, under domestication. Bulletin, 1894 (1895), vol. XIV, p. 289-314. *Doc. 294 issued May 22, 1895.* 12-17377
- Pancritius, P.:** On the food and digestion of German fish. Bulletin, 1886 (1887) vol. VI, p. 145-148. F18-561

- Rich, Willis H.:** [Rate of growth of chinook salmon.] Bulletin, 1919-20 (19)
vol. XXXVII, p. 45-51.
- Seagle, George A.:** [Size and growth of the rainbow trout.] Report, 1897 (1898),
p. 72-73; also in Manual of fish-culture, rev. ed., 1900, p. 62-63.
- U. S. Bureau of Fisheries:** [Growth of the cod.] Report, 1897 (1898), p. 194; also
in Manual of fish-culture, rev. ed., 1900, p. 196.
- Wergeland, N.:** [Growth of trout.] Report, 1878 (1880), p. 554.

VITALITY.

- Blackford, E. G.:** [Resuscitation of carp.] Bulletin, 1885 (1885), vol. V, p. 72.
- Duke, R. T. W.:** A four-pound carp lives eight hours out of water by being packed
in wet moss. Bulletin, 1884 (1884), vol. IV, p. 16. F18-207
- [Vitality of carp deprived of water.] Bulletin, 1884 (1884), vol. IV, p. 305.
- Heath, Neil:** Effect of cold on fishes. Bulletin, 1884 (1884), vol. IV, p. 369-371.
F13-116
- Jones, C. E.:** [Vitality of carp.] Bulletin, 1886 (1887), vol. VI, p. 402.
- Peirce, Milton P.:** Resuscitation of apparently dead carp. Bulletin, 1884 (1884),
vol. IV, p. 183. F18-275
- [Resuscitating fish.] Bulletin, 1885 (1885), vol. V, p. 65-67.
- Scudder, Charles W.:** Vitality of German carp and restoration of some apparently
dead. Bulletin, 1884 (1884), vol. IV, p. 179-180. F18-271
- Smiley, Charles W.:** Remarkable resuscitation of frozen carp. Bulletin, 1884
(1884), vol. IV, p. 183-184. F13-94
- Wigg, George:** On the insensibility of German carp to freezing. Bulletin, 1881
(1882), vol. I, p. 402.

WEIGHT.

- Blackford, Eugene Gilbert:** [Large halibut and pompano.] Bulletin, 1884 (1884)
vol. IV, p. 315.
- Crooker, L. B.:** [A large bass.] Bulletin, 1884 (1884), vol. IV, p. 365.
- Evermann, Barton Warren, and Edmund Lee Goldsborough:** [Lengths and
weights of black salmon, dog salmon, king salmon, coho salmon, and red salmon.]
Bulletin, 1906 (1907), vol. XXVI, p. 233-238, 242, 246, 249, and 258.
- Kendall, William Converse:** Fishes and fishing in Sunapee Lake. (Weight of
salmon: p. 30.) Report and special papers, 1912 (1914), 96 p. *Doc. 783 issued*
Jan. 28, 1914. F14-1
- Kidder, Jerome Henry:** [Loss of weight in fishes after capture.] Bulletin, 1885
(1885), vol. V, p. 70.
- [Large herring.] Bulletin, 1884 (1884), vol. IV, p. 311.
- [Large salmon.] Bulletin, 1884 (1884), vol. IV, p. 339.
- Lord, W. Scott:** [Weight of 51 salmon.] Bulletin, 1881 (1882), vol. I, p. 274.
- Stilwell, E. M.:** [On the weight of brook trout (*Salmo fontinalis*.)] Bulletin, 1884
(1884), vol. IV, p. 311.
- Stone, Livingston:** Weights of salmon taken at McCloud River station in 1880.
Bulletin, 1884 (1884), vol. IV, p. 178-179. F18-270
- Sumner, Francis Bertody:** [Changes of weight resulting from water density.]
Bulletin, 1905 (1906), vol. XXV, p. 70-84.

POISONOUS FISHES.

- Macgowan, D. J.:** [Poisonous fish in China.] Bulletin, 1886 (1887), vol. VI, p.
130-131.
- Swan, James G.:** [Fatal injury inflicted by a starfish.] Bulletin, 1887 (1889), vol.
VII, p. 33-48.
- Tybring, O.:** Poisonous fish. Bulletin, 1886 (1887), vol. VI, p. 148-151. F18-562

REGENERATION.

- Ryder, John Adam:** Note on the regeneration of the scales of the German carp.
Bulletin, 1884 (1884), vol. IV, p. 345-346. F13-113

OXYGEN REQUIREMENTS.

- Baird, Spencer Fullerton:** [Deficient oxygen supply.] Bulletin, 1884 (1884),
vol. IV, p. 379-380.

- Birge, E. A.:** Gases dissolved in the waters of Wisconsin Lakes. (With discussion by J. J. Stranahan and Oscar F. Nordqvist.) Bulletin, 1908 (1910), vol. XXVIII, p. 1273-1294, diagrs. *Doc. 718 issued May 5, 1910.* 11-5437
- Marsh, Millard Caleb:** Notes on the dissolved content of water in its effect upon fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 891-906. *Doc. 688 issued April, 1910.* 10-35560
- Pearse, A. S., and Henrietta Achtenberg:** [Oxygen requirements of fish.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 320-326, tables 23-24.
- Simms, George E.:** [Adequate supply of oxygen necessary in fish culture.] Bulletin, 1908 (1910), vol. XXVIII, p. 1018-1019.
- Zacharias, Otto:** Some of the life needs of fish. Bulletin, 1886 (1887), vol. VI, p. 445-447. F18-629

VARIATION.

- [Albino fish.] Bulletin, 1881 (1882), vol. 1, p. 219.
- Bean, Tarleton Hoffman:** A hybrid between the lake trout and the brook trout. Bulletin, 1887 (1889), vol. VII, p. 216. F18-673
- Knauthe, Karl:** Two fertile cyprinoid hybrids. Bulletin, 1894 (1895), vol. XIV, p. 29-30. *Doc. 234 issued Mar. 24, 1894.* F12-180
- Krause, K. E. H.:** A hybrid plaice—*Platessa vulgaris*, with *Rhombus maximus*. Bulletin, 1882 (1883), vol. II, p. 341-342. F12-368
- Ryder, John Adam:** [Notice of an extraordinary hybrid between the shad and striped bass.] Bulletin, 1882 (1883), vol. II, p. 187.

RELATIONS.

ENEMIES.

- Annin, James:** Poachers or destructive visitors of fish ponds. Bulletin, 1884 (1884), vol. IV, p. 85-86. F18-232
- Baird, Spencer F.:** [Salamander (*Menobranchus*) eats eggs of whitefish.] Report, 1886 (1889), p. 64.
- Beardsley, Arthur Eugene:** The destruction of trout fry by hydra. Bulletin, 1902 (1904), vol. XXII, p. 155-160. *Doc. 518 issued Mar. 30, 1903.* F12-62
- Benecke, Berthold:** The enemies of pond culture in central Europe. Bulletin, 1886 (1887), vol. VI, p. 337-342. F18-606
- Carpenter, Charles:** What muskrats sometimes eat. Bulletin, 1884 (1884), vol. IV, p. 295. F18-318
- Chamberlain, F. M.:** Some observations on salmon and trout in Alaska. (Enemies: p. 107-109.) Report and special papers, 1906 (1908). *Doc. 627 issued Dec. 18, 1907.* 7-35437
- Cole, Leon J.:** [Enemies of carp.] Report, 1904 (1905), p. 579-584.
- Collins, Joseph William:** [Destruction of fish by sea lions.] Report, 1888 (1892), p. 125.
- Dimmock, George:** Belostomidæ and some other fish-destroying bugs. (Literature: p. 359.) Bulletin, 1886 (1887), vol. VI, p. 353-359, illus. F18-611
- Eben-Bauditten:** [Enemies of carp.] Report, 1878 (1880), p. 668-669.
- Elliott, Henry W.:** The destruction of carp by the muskrat (*Fiber zibethicus*). Methods of trapping the rodent. Bulletin, 1884 (1884), vol. IV, p. 296-297. F18-319
- Friedlaender, Oscar O.:** [Sharks, enemy of fish.] Bulletin, 1884 (1884), vol. IV, p. 48.
- Gardner, A. P.:** [Belostoma (*Belostoma americanum*).] Bulletin, 1886 (1887), vol. VI, p. 456.
- Goode, G. Brown:** [The lamprey (*Petromyzontidæ*)—a parasite.] Bulletin, 1882 (1883), vol. II, p. 349-354.
- [Enemies of the mackerel.] Report, 1881 (1884), p. 117-119.
- Haack, Hermann:** Trapping kingfishers, rodents, and other enemies of trout. Bulletin, 1884 (1884), vol. IV, p. 375-376. F18-336
- Hessel, Rudolph:** Snakes destructive to carp. Bulletin, 1884 (1884), vol. IV, p. 294-295. F18-317
- [Marsh hens and night herons catch carp.] Bulletin, 1884 (1884), vol. IV, p. 308.
- [A method of destroying noxious fishes.] Bulletin, 1884 (1884), vol. IV, p. 311.
- [To destroy muskrats.] Bulletin, 1884 (1884), vol. IV, p. 470.
- Holmes, John F., and Collins, Joseph William:** [Herring and mackerel eaten by squid.] Bulletin, 1885 (1885), vol. V, p. 88-89.

- Kendall, William Converse:** [Enemies of the trout.] Bulletin, 1915-16 (1918), vol. XXXV, p. 562-563.
- La Valette Saint George, Adolf Johann Hubert:** The enemies of fish. Report, 1878 (1880), p. 509-516. F16-164
- Martin, S. J.:** [Destructiveness of squid.] Bulletin, 1885 (1885), vol. V, p. 62.
- Merriam, C. Hart:** The muskrat as a fish eater. Bulletin, 1884 (1884), vol. IV, p. 297-298. F13-108
- Milner, James W.:** [Enemies of the whitefish.] Report, 1872-73 (1874), p. 62-63.
- Moore, Henry Frank:** [Enemies of the herring]. Report, 1896 (1898), p. 403-405.
- Moseley, H. N.:** The fish-eating utricularia, or bladder-wort. Bulletin, 1884 (1884), vol. IV, p. 261, pl. II. F18-305
- Murray, C. H.:** Young trout destroyed by mosquitoes. Bulletin, 1885 (1885), vol. V, p. 243. F18-417
- Nye, Willard:** Do snakes catch and eat fish? Bulletin, 1883 (1883), vol. III, p. 196. F18-124
- Pearse, A. S., and Henrietta Achtenberg:** [Enemies of yellow perch.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 332-333.
- Quarles, J. P.:** [Water-bugs supposed to injure carp.] Bulletin, 1886 (1887), vol. VI, p. 403.
- Redding, Joseph D.:** [Sea-lion investigation.] Bulletin, 1885 (1885), vol. V, p. 346.
- Cause of the decrease of salmon in the Sacramento River. Bulletin, 1887 (1889), vol. VII, p. 57-58. F18-649
- Riley, Charles Valentine:** Water-beetles destroying carp. Bulletin, 1885 (1885), vol. V, p. 311. F18-457
- Simms, G. E.:** A fish-eating plant. Bulletin, 1884 (1884), vol. IV, p. 257-259. F18-303
- Smith, Hugh McCormick:** [The destruction of salmon by seals.] Bulletin, 1897 (1898), vol. XVII, p. 120.
- Snakes catching fish.** Bulletin, 1884 (1884), vol. IV, p. 239. F18-296
- Sturr, Charles H.:** [How to construct muskrat traps.] Bulletin, 1885 (1885), vol. V, p. 342.
- Surface, H. A.:** The lampreys of central New York. Bulletin, 1897 (1898), vol. XVII, p. 209-215, illus., pl. 10-11. *Doc. 372 issued Aug. 5, 1898.* F12-110
- U. S. Bureau of Fisheries:** [Destruction of newly hatched salmon by larvæ of caddis and black fly.] Report, 1894 (1896), p. 58-60.
- Walker, Ernest:** [Destructiveness of hair seals in the salmon fishery: p. 47-51.] In Alaska fisheries and fur industries in 1915, by Bower and Aller. Appendix III, Report, 1915 (1917), 140 p. *Doc. 834 issued Jan. 6, 1917.* F12-388
- Warner, J. S.:** Catching fish in a creek in Tennessee by a water snake. Bulletin, 1884 (1884), vol. IV, p. 220. F18-290
- Wright, J. W. A.:** [Do tadpoles eat carp eggs?] Bulletin, 1886 (1887), vol. VI, p. 458-459.

ENVIRONMENTAL FACTORS.

- Bettoni, Eugenio and Vinciguerra:** [Environmental factors in fish culture.] Report, 1886 (1889), p. 539-601.
- Hamlin, A. C.:** [Environmental effects] on the salmon of Maine. Report, 1872-73 (1874), p. 338-356. F15-103
- Marsh, Millard Caleb:** Notes on the dissolved content of water in its effect upon fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 891-906. *Doc. 688 issued April, 1910.* 10-35560
- Page, William F.:** Effect of sunlight upon shad eggs. Bulletin, 1885 (1885), vol. V, p. 308. F18-453

TEMPERATURE.

- Bettoni, Eugenio and Vinciguerra:** [Temperature of the water favorable to hatching.] Report, 1886 (1889), p. 541-542.
- Bumpus, Hermon Cary:** The reappearance of the tilefish. Bulletin, 1898 (1899), vol. XVIII, p. 321-333. *Doc. 416 issued Oct. 30, 1899.* F12-32
- Cary, H. H.:** Period of incubation of the eggs of German carp. Bulletin, 1883 (1883), vol. III, p. 447. F18-179
- Day, Francis:** The effects of an elevated temperature on fishes. Bulletin, 1885 (1885), vol. V, p. 142-144. F18-391

- Heath, Neil: Effect of cold on fishes. Bulletin, 1884 (1884), vol. IV, p. 369-371. F13-116
- Marsh, Millard Caleb, and Frederic P. Gorham: [Relation of gas disease in fish to temperature and pressure.] Report, 1904 (1905), p. 343-376.
- Meyer, Heinrich Adolf: [Influence of temperature on the development of eggs of the spring herring.] Report, 1873 (1880), p. 629-634.
- Milner, James W.: [Relation of the temperature to the propagation of the shad.] Report, 1872-73 (1874), p. 428-430.
- [Environmental effect in the transportation of shad for long distances.] Report, 1873-74 and 1874-75 (1876), p. 363-370.
- Moore, Henry Frank: [Effect of temperature upon the spawning of the herring.] Report, 1896 (1898), p. 409-411.
- Rice, Henry J.: Experiments upon retarding the development of the eggs of the shad, made in 1879 at the United States shad-hatching station at Havre de Grace, Md. Report, 1881 (1884), p. 787-794. F16-341
- Ryder, John Adam: On the retardation of the development of the ova of the shad (*Alosa sapidissima*), with observations of the egg fungus and bacteria. Bulletin, 1881 (1882), vol. I, p. 177-190. F12-319
- Additional observation on the retardation of the development of the ova of the shad. Bulletin, 1881 (1882), vol. I, p. 422-424. F12-340
- On the retardation of the development of the ova in the shad (*Alosa sapidissima*), with observations on the egg fungus and bacteria. Report, 1881 (1884), p. 795-811. F16-342
- Wigg, George: On the insensibility of German carp to freezing. Bulletin, 1881 (1882), vol. I, p. 402.
- Worth, Stephen G.: Observations on the spawning habits of the shad. Bulletin, 1891 (1893), vol. XI, p. 201-206. Doc. 209 issued Mar. 11, 1893. F12-127

DENSITY AND SALINITY.

- Chamberlain, Frederick M.: Some observations on salmon and trout in Alaska. (Effect of change from fresh to salt water: p. 42-43.) Report and special papers, 1906 (1908). Doc. 627 issued Dec. 18, 1907. 7-35437
- Coutance, H. A.: Biological action of the salts contained in sea water from the point of view of the maintenance of marine animals. Report, 1881 (1884), p. 749-754. F16-337
- Hensen, Victor: [Influence of salinity on the occurrence and quantity of the eggs of some of the fish of the Baltic.] Report, 1882 (1884), p. 427-454.
- Karsten, Gustav: [The specific gravity of the Baltic Sea and the German Ocean.] Report, 1878 (1880), p. 284-286.
- Ravenel, William de Chastignier: [Table of temperature and densities at the St. Jerome station, Havre de Grace, Md., for the year 1886.] Report, 1886 (1889), p. 768-777.
- Scott, George G.: Effects of changes in the density of water upon the blood of fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1143-1150. Doc. 712 issued Apr. 21, 1910. 10-35557
- Sumner, Francis Bertody: The physiological effects upon fishes of changes in density and salinity of water. (List of works referred to: p. 107-108.) Bulletin, 1905 (1906), vol. XXV, p. 53-108. Doc. 596 issued May 22, 1906. F11-67

HABITS AND BEHAVIOR.

MISCELLANEOUS.

- Baird, Spencer Fullerton: [Habits of alewives.] Bulletin, 1885 (1885), vol. V, p. 86-87.
- Cole, Leon J.: [Habits and special senses of the carps.] Report, 1904 (1905), p. 550-579.
- Gill, Theodore Nicholas: A plea for observation of the habits of fishes and against undue generalization. (With discussion by E. E. Prince, Hugh M. Smith, and Tarleton H. Bean.) Bulletin, 1908 (1910), vol. XXVIII, p. 1059-1069. Doc. 708 issued April, 1910. 10-35436
- Goode, G. Brown: [Pugnacity of the swordfish.] Report, 1880 (1883), p. 331-342.
- Hamilton, W. R.: Croaking of the perch. Bulletin, 1887 (1889), vol. VII, p. 63. F18-651

- Hildebrand, Samuel Frederick:** Fishes in relation to mosquito control in ponds. Appendix IX, Report, 1918 (1920), 15 p., illus., VI pl. *Doc. 874 issued Sept. 23, 1919.* F19-38
- Holder, Charles Frederick:** A method of studying the life history of fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1137-1141. *Doc. 711 issued April, 1910.* 10-35553
- Johnson, George A.:** [Biting habits of the black cross-toothed fish (*Chiasmodon niger*).] Bulletin, 1885 (1885), vol. V, p. 96.
- Kendall, William Converse:** [Schooling of fishes.] Bulletin, 1907 (1908), vol. XXVII, p. 281-282.
- Nye, Willard:** [Flying fish.] Bulletin, 1885 (1885), vol. V, p. 189-190.
- Oesterbol, A.:** Fish and Medusæ. Bulletin, 1885 (1885), vol. V, p. 331-332. F18-469
- Pearse, Arthur Sperry:** Habits of the black crappie in inland lakes of Wisconsin. (Bibliography: p. 15-16.) Appendix III, Report, 1918 (1920), 16 p., illus. *Doc. 867 issued June 24, 1919.* F19-29
- Pearse, A. S., and Henrietta Achtenberg:** Habits of yellow perch in Wisconsin lakes (Bibliography: p. 363-366.) Bulletin, 1917-1918 (1921), vol. XXXVI, p. 293-366, illus., pl. LXXXIII. *Doc. 885 issued Aug. 4, 1920.* F20-158
- Phillips, Barnet:** [Jumping of Spanish mackerel (*Cybius maculatum*).] Bulletin, 1885 (1885), vol. V, p. 74.
- Rutter, Cloudsley:** [Two hermaphrodite salmon.] Bulletin, 1902 (1904), vol. XXII, p. 132.
- U. S. Commissioner of Fisheries:** [Habits of the Gourami.] Report, 1880 (1883), p. XXXV-XXXVI.

BREEDING HABITS.

- Atkins, Charles G.:** Ten questions concerning the habits and breeding of land-locked salmon, with replies. Bulletin, 1884 (1884), vol. IV, p. 383-384. F18-341
- Baird, Spencer Fullerton:** [General notes on habits of the eel.] Bulletin, 1881 (1882), vol. I, p. 74-75.
- Bean, Barton A.:** [Notes on Williamson's whitefish in breeding colors.] Bulletin, 1894 (1895), vol. XIV, p. 205, pl. 21.
- Benecke:** [Breeding habits of the brook lamprey, *P. planeri*.] Bulletin, 1882 (1883), vol. II, p. 351-352.
- Boake, Bancroft:** [Gestation in Ceylon fishes.] *Quoted by* Evermann and Goldsborough. Bulletin, 1901 (1902), vol. XXI, p. 142-143.
- Brice, J. J.:** [Breeding habits of the salmon.] Report, 1893 (1895), p. 389-390.
- Buch, Sophus Andreas:** Spawning of spring herring near Norway. Bulletin, 1885 (1885), vol. V, p. 297-300. F18-447
- Day, Francis:** [Breeding habits of fishes of India.] Report, 1883 (1884), p. 389-392.
- [Curious breeding habits of the Arius.] *Quoted by* Evermann and Goldsborough. Bulletin, 1901 (1902), vol. XXI, p. 145.
- [Breeding habits of the brown trout.] *Quoted by* Kendall in Fishes and fishing in Sunapee Lake, p. 46. Report and special papers, 1912 (1914), 96 p. *Doc. 783 issued Jan. 28, 1914.* F14-1
- Edwards, Vinal N.:** [Ripe sculpins in Vineyard sound.] Bulletin, 1884 (1884), vol. IV, p. 314-315.
- Eigenmann, Carl H.:** On the viviparous fishes of the Pacific coast of North America. (Bibliography: p. 468-471. Bulletin, 1892 (1894), vol. XII, p. 381-478, pl. XCII-CXVIII. *Doc. 231 issued June 26, 1894.* F12-159
- Evermann, Barton Warren, and Edmund Lee Goldsborough:** [*Girardinichthys innominatus*, a viviparous fish.] Bulletin, 1901 (1902), vol. XXI, p. 149.
- Finsch, Otto:** [Spawning habits of the goldorfe.] Bulletin, 1881 (1882), vol. I, p. 224.
- Gilchrist, F. C.:** [Spawning habits of the tullebe.] *Quoted by* Evermann. Report, 1894 (1896), p. 321.
- Gudger, Eugene Willis:** The habits and life history of the toadfish (*Opsanus tau*). (Literature cited: p. 1107-1109.) Bulletin, 1908 (1910), vol. XXVIII, p. 1073-1109, illus., pl. CVII-CXIII. *Doc. 709 issued Apr. 30, 1910.* 10-35604
- Gunther, Albert:** [Breeding habits of the eel.] Bulletin, 1881 (1882), vol. I, p. 76-77.
- [Universal modes of gestation.] *Quoted by* Evermann and Goldsborough. Bulletin, 1901 (1902), vol. XXI, p. 142-145.
- Habersham, William Ney A.:** Notes on the use of the male salmon hook and the run of 1883. Bulletin, 1884 (1884), vol. IV, p. 52. F18-215

- Holder, Charles Frederick:** [Breeding habits of the kelpfish.] Bulletin, 1908 (1910) vol. XXVIII, p. 1140-1141.
- Kendall, William Converse:** [Breeding habits of the silversides.] Report, 1901 (1902), p. 245-247.
- [Breeding habits of some of the commercial catfishes.] Bulletin, 1902 (1904), vol. XXII, p. 406-408.
- American catfishes. . . . [Breeding habits: p. 16-19.] Report and special papers, 1908 (1910), 39 p. *Doc. 733 issued Aug. 23, 1910.* 10-35547
- Fishes and fishing in Sunapee Lake. [Habits of the chinook salmon, p. 26-27; American saibling, p. 62-65; smelt, p. 72-79.] Report and special papers, 1912 (1914), 96 p. *Doc. 783 issued Jan. 28, 1914.* F14-1
- Kendall, W. C., and E. L. Goldsborough:** Fishes of the Connecticut lakes. . . . [Breeding habits of the chub, p. 27-28; Redfin, p. 31; Eel, p. 37.] Report and special papers, 1907 (1909), 77 p. *Doc. 633 issued July 6, 1908.* 8-35558
- Kirtland, Frederick, and W. B. Tully:** [Do shad spawn in salt or brackish water?] Bulletin, 1886 (1887), vol. VI, p. 455-456.
- Kuntz, Albert:** Notes on the habits, morphology of the reproductive organs, and embryology of the viviparous fish, *Gambusia affinis*. Bulletin, 1913 (1915), vol. XXXIII, p. 177-190, pl. XVI-XIX. *Doc. 806 issued Oct. 28, 1914.* F14-106
- Lydell, Dwight:** The habits and culture of the black bass. Bulletin, 1902 (1904), vol. XXII, p. 39-44, pl. 8. *Doc. 513 issued Feb. 26, 1903.* F12-57
- Milner, James W.:** [Habits of brook trout during the breeding season.] Report, 1872-73 (1874), p. 52-55.
- [Spawning habits of the whitefish.] Report, 1872-3 (1874), p. 48-55.
- [Mode of life, habits, and propagation of the black bass and catfish.] Bulletin, 1886 (1887), vol. VI, p. 197-199.
- Mowart, Thomas:** [Spawning habits of the salmon.] Quoted by Rathbun. Report, 1899 (1900), p. 278-279.
- Norny, E. R.:** [Spawning habits of the striped bass.] Bulletin, 1881 (1882), vol. I, p. 67.
- Pavesi, P.:** Observations on male eels. Bulletin, 1886 (1887), vol. VI, p. 222-224. F18-583
- Rathbun, Richard:** [Observations of Vinal N. Edwards on the spawning of the menhaden.] Report, 1892 (1894), p. CX.
- Reighard, Jacob Ellsworth:** Methods of studying the habits of fishes, with an account of the breeding habits of the horned dace. (Literature cited: p. 1135-1136.) Bulletin, 1908 (1910), vol. XXVIII, p. 1111-1136, illus., pl. CXIV-CXX. *Doc. 710 issued May 5, 1910.* 10-35605
- Rutter, Cloudsley:** Natural history of the quinnat salmon. A report on investigations in the Sacramento River, 1896-1901. Bulletin, 1902 (1904), vol. XXII, p. 65-141, incl. tables, illus., pl. 10-18 (partly fold.). *Doc. 515 issued Mar. 30, 1903.* F12-59
- Ryder, John Adam:** Notes on the development, spinning habits, and structure of the four-spined stickleback, *Apeltes quadracus*. Bulletin, 1881 (1882), vol. I, p. 24-29. F12-331
- [The mackerel a nocturnal spawner.] Bulletin, 1881 (1882), vol. I, p. 135-136.
- [Spawning habits of the sea-horse.] Bulletin, 1881 (1882), vol. I, p. 191.
- Preliminary notice of the development and breeding habits of the Potomac catfish, *Aminurus albidus* (Lesueur) Gill. Bulletin, 1883 (1883), vol. III, p. 225-230. F12-393
- [Spinning habits of the male stickleback during breeding.] Report, 1885 (1887), p. 514-516.
- On the intraovarian gestation of the redfish. Bulletin, 1886 (1887), vol. VI, p. 92-93. F18-546
- [Habits of the sturgeon.] Bulletin, 1888 (1890), vol. VIII, p. 265-268.
- Sawyer, J. N.:** The breeding habits of the eel. Bulletin, 1886 (1887), vol. VI, p. 218-219. F18-581
- Seal, William P.:** Observations on the aquaria of the U. S. Fish commission at Central station, Washington, D. C. Bulletin, 1890 (1893), vol. X, p. 1-13, illus., IV, pl. *Doc. 186 issued Feb. 11, 1892.* 7-1837
- Sherwood, George H., and Vinal N. Edwards:** [Notes on the spawning habits of fishes of the Woods Hole region.] Bulletin, 1901 (1902), vol. XXI, p. 27-31.
- Smith, Hugh McCormick, and Leighton G. Harron:** Breeding habits of the yellow catfish. Bulletin, 1902 (1904), vol. XXII, p. 149-154. *Doc. 517 issued Mar. 30, 1903.* F12-61
- [Spawning habits of the carp.] Bulletin, 1882 (1883), vol. II, p. 3-4

- Stone, Livingston:** Segregation of the sexes of trout. Bulletin, 1885 (1885), vol. V, p. 448. F18-505
- Surface, H. A.:** [Breeding habits of the lampreys of central New York.] Bulletin, 1897 (1898), vol. XVII, p. 209-215.
- Thompson, Edward H.:** Notes on the breeding of eels. Bulletin, 1884 (1884), vol. IV, p. 208. F18-283
- Turner, William:** [Remarkable mode of gestation in an undescribed species of *Arius*.] Quoted by Evermann and Goldsborough. Bulletin, 1901 (1902), vol. XXI, p. 143-145.
- U. S. Bureau of Fisheries:** [Artificial nest placed in ponds.] Report, 1896 (1898), p. 42; 1897 (1898), p. XLIX-LI.
- Worth, Stephen G.:** Observations on the hatching of the yellow perch. Bulletin, 1890 (1892), vol. X, p. 331-334, pl. LXI. Doc. 201 issued Sept. 24, 1892. F12-120
- Observations on the spawning habits of the shad. Bulletin, 1891 (1893), vol. XI, p. 201-206. Doc. 209 issued Mar. 11, 1893. F12-127
- Wyman, Jeffries:** [On some unusual modes of gestation.] Quoted by Evermann and Goldsborough. Bulletin, 1901 (1902), vol. XXI, p. 141-142.

COLOR.

- Earl, R. Edward:** [Variation in color of cod.] Report, 1878 (1880), p. 709-710.
- Hamlin, A. C.:** [Cause of color of fish.] Report, 1872-3 (1874), p. 343-344.
- Kuntz, Albert:** The histological basis of adaptive shades and colors in the flounder, *Paralichthys albiguttus*. (Bibliography: p. 26-28.) Bulletin, 1915-16 (1918), vol. XXXV, 29 p., illus., 2 col. pl. Doc. 842 issued May 28, 1917. F17-185
- Lanman, Charles:** [Causes of color of brook trout.] Report, 1872-73 (1874), p. 219-220.
- Lee, Leslie A.:** [Color of deep-sea fish.] Report, 1881 (1884), p. LXII.
- Mast, Samuel Ottmar:** Changes in shade, color, and pattern in fishes, and their bearing on the problems of adaptation and behavior, with special reference to the flounders, *Paralichthys* and *Ancyllopsetta*. (Bibliography: p. 230-232.) Bulletin, 1914 (1916), vol. XXXIV, p. 173-238, illus., pl. XIX-XXXVII (part col.). Doc. 821 issued May 10, 1916. F16-80
- Wagner, Christian:** [Artificial coloring of fish.] Report, 1878 (1880), p. 683-684. F16-177

HIBERNATION.

- Goode, George Brown:** [Hibernation of the menhaden.] Report, 1877 (1879), p. 56.

MIGRATION.

- [Appearance of various kinds of fish.] Bulletin, 1885 (1885), vol. V, p. 110.
- Armistead, J. J.:** Atmosphere and other influences on the migration of fishes. Bulletin, 1893 (1894), vol. XIII, p. 93-99. Doc. 248 issued June 6, 1894. F12-183
- Atkins, Charles G.:** [Habits of migratory fish.] Report, 1872-3 (1874), p. 591-594.
- [Notes on the growth and migrations of salmon.] Report, 1872-3 (1874), p. 327-335.
- Baird, Spencer Fullerton:** [Bluefish, a wandering fish.] Report, 1871-2 (1873), p. 236-237.
- [Decrease of the cod fisheries of the New England coast due to the diminution of anadromous fish following the erection of river dams.] Report, 1872-3 (1874), p. XI-XIV.
- [Migratory species of food fish.] Report, 1872-3 (1874), p. xxxviii-xl.
- [Migrations and movements of the shad.] Report, 1872-3, (1874), p. xlviii.
- [Migrations and movements of fishes of eastern North America.] Report, 1886 (1889), p. 47-61.
- [Effect of temperature on the migration of fish.] Report, 1886 (1889), p. 55-57.
- Barin, L. T.:** Salmon in the Clackamas River. Bulletin, 1886 (1887), vol. VI, p. 111-112. F18-552
- Bartlett, S. P.:** [Carp in rivers.] Bulletin, 1885 (1885), vol. V, p. 104.
- Blackford, Eugene Gilbert:** [Codfish taken off the coast of North Carolina.] Bulletin, 1885 (1885), vol. V, p. 109.
- [Movements of shad.] Bulletin, 1885 (1885), vol. V, p. 110-111.
- [Salmon in the Connecticut.] Bulletin, 1885 (1885), vol. V, p. 346.

- Benecke, B.: Observations on salmon in German Rivers. Bulletin, 1886 (1887), vol. VI, p. 119-122. F18-556
- Boeck, Axel, i. e., Jonas Axel and A. Feddersen: [Migration of the Norwegian herring.] Report, 1873-5 (1876), p. 100-102. F16-7
- [California trout in Delaware River.] Bulletin, 1884 (1884), vol. IV, p. 311.
- Casto, L. P.: [The first menhaden.] Bulletin, 1885 (1885), vol. V, p. 110.
- Chamberlain, Frederick M.: Some observations on salmon and trout in Alaska. (Methods used to determine migratory movements: p. 21. Influence of temperature on return of salmon to fresh water: p. 71-72.) Report and special papers, 1906 (1908). Doc. 627 issued Dec. 18, 1907. 7-35437
- Cheney, A. Nelson: Salmon in the Hudson River. Bulletin, 1886 (1887), vol. VI, p. 351-352. F18-610
- Cobb, John Nathan: Pacific cod fisheries. (Migration: p. 8.) Appendix IV, Report, 1915 (1917). Doc. 830 issued Oct. 23, 1916. F16-191.
- Coker, Robert Ervin: Water-power development in relation to fishes and mussels of the Mississippi. (Problem of the migrations of river herring: p. 25-28.) Appendix VIII, Report, 1913 (1914), 28 p., VI pl. Doc. 805 issued Nov. 11, 1914. F14-130
- Cole, Leon Jacob: [Migrations of the German carp.] Report, 1904 (1905), p. 556-560.
- Collins, Joseph William: Appearance of dogfish (*Squalus acanthias*) on the New England coast in winter. Bulletin, 1882 (1883), vol. II, p. 8. F18-60
- Notes on the movements, habits, and capture of mackerel for the season of 1882. Bulletin, 1882 (1883), vol. II, p. 273-286. F12-363
- Collins, Joseph William, and D. E. Collins: [Migrations of the mackerel.] Report, 1887 (1891), p. 494-495.
- Dambeck, Carl: [Temperature, saltness, amount of food, and currents, factors in geographical distribution of the Gadidae.] Report, 1877 (1879), p. 531-557.
- Day, Francis: [Migration of spawning fish of India.] Report, 1883 (1885), p. 389.
- [Drumfish in Bush river.] Bulletin, 1885 (1885), vol. V, p. 338.
- Earll, R. Edward: [Migrations of the cod.] Report, 1878 (1880), p. 705-708.
- [Movements of the Spanish mackerel.] Report, 1880 (1883), p. 399-400.
- Fiedler: The migrations of salmon (*Salmo salar* L.) in the Baltic. Bulletin, 1885 (1885), vol. V, p. 185-188. F18-40
- Foster, N. W.: [Halibut in fresh water.] Bulletin, 1885 (1885), vol. V, p. 90-91.
- Golden, R. A.: [Big-eyed herring (*Elops saurus*), taken in the Potomac.] Bulletin, 1885 (1885), vol. V, p. 466.
- Goode, George Brown: [Migrations of menhaden and the causes.] Report, 1877 (1879), p. 50-70. F12-236
- [Migration of eels.] Bulletin, 1881 (1882), vol. I, p. 101-105.
- [Movements of the swordfish.] Report, 1880 (1883), p. 319-324.
- [Studies of the movements of the mackerel schools.] Report, 1881 (1884), p. 119-138.
- Gould, N. E.: Time of approach of fish to the New England coast. Bulletin, 1885 (1885), vol. V, p. 216. F18-410
- Greene, Charles Wilson: The migration of salmon in the Columbia River. Bulletin, 1909 (1911), vol. XXIX, p. 129-148, pl. XXVI-XXVII. Doc. 743 issued Mar. 15, 1911. F11-102
- Hermes, Otto: The migrations of eels. Report, 1884 (1886), p. 1123-1126. F17-139
- Hind, Professor: [Studies of the movements of the mackerel schools; causes of irregular movement.] Report, 1881 (1884), p. 119-127.
- Hinkelmann, Herr: The mode of life of eels. Bulletin, 1884 (1884), vol. IV, p. 389-390. F18-345
- Holmes, John F.: [Appearance of fish.] Bulletin, 1885 (1885), vol. V, p. 347.
- Karsten, Gustav: On the scientific investigation of the Baltic Sea and the German Ocean. [Relation of temperature and other physical factors to migrations of fish.] Report, 1878 (1880), p. 283-294. F16-162
- Krueger, A. C.: [Carp in Susquehanna River.] Bulletin, 1884 (1884), vol. IV, p. 306.
- Ljungman, Axel Vilhelm: [The migrations of the herring.] Report, 1873-1875 (1876), p. 147-150.
- [Review of the mode of life and migrations of the herring and their physical and biological causes.] Report, 1878 (1880), p. 160-220.
- Loeb, Jacques: On the influence of light on the periodical depth-migrations of pelagic animals. Bulletin, 1893 (1894), vol. XIII, p. 65-68. Doc. 245 issued June 9, 1894. F12-183

- McDonald, Marshall:** [Effect of temperature on migrations.] Report, 1888-89 (1892), p. XV-XVI.
- Malmgren, A. J.:** The migrations of the salmon (*Salmo salar* L.) in the Baltic. Bulletin, 1884 (1884), vol. IV, p. 322-328. F13-110
- Marsh, M. C.:** [Low temperature effects movements of shad.] Report, 1898 (1899), p. CXXXIX.
- Martin, S. J.:** Movements and catch of mackerel. Bulletin, 1882 (1883), vol. II, p. 89-90. F18-78
- Movements of mackerel. Bulletin, 1883 (1883), vol. III, p. 470. F20-134
- The movements of schools of mackerel. Bulletin, 1883 (1883), vol. III, p. 295-296. F20-134
- Mather, Fred:** [The alleged capture of a salmon in the Hudson.] Bulletin, 1884 (1884), vol. IV, p. 366.
- Milner, James W.:** [Migrations of the white-fish.] Report, 1872-3 (1874), p. 46-48.
- Moore, Henry Frank:** [Effects of physical phenomena on the herring of the North-east Coast.] Report, 1896 (1898), p. 396-403.
- O'Malley, Henry, and Willis H. Rich:** Migration of adult sockeye salmon in Puget Sound and Fraser River. Appendix VIII, Report, 1918 (1920), 38 p. incl. tables, pl., fold. chart. *Doc. 873 issued Dec. 3, 1919.* F19-43
- Pearse, A. S., and Henrietta Achtenberg:** [Migrations of yellow perch.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 328-330.
- Phillips, Barnet:** A stray cod up the Hudson. Bulletin, 1883 (1883), vol. III, p. 416. F18-156
- Prussia. Kommission zur wissenschaftlichen Untersuchung der Deutschen Meere in Kiel.** [Causes of migration and schooling of herring.] Report, 1879 (1882), p. 543-545.
- Rathbun, Richard:** [Migration of the red-fish.] Report, 1896 (1898), p. 113-114.
- Rich, Willis H.:** Marked Pacific salmon. Announcement regarding fish expected to return in 1919 and subsequent years. 12 p., illus. *Economic Circular 45 issued May 10, 1919.* F19-28
- Early history and seaward migration of chinook salmon in the Columbia and Sacramento rivers. (Bibliography: p. 71-72.) Bulletin, 1919-20 (192-), vol. XXXVII, 73 p., illus., IV pl. *Doc. 887 issued July 26, 1920.* F20-155
- Rutter, Cloudsley:** [Do salmon return to their native streams?] Bulletin, 1902 (1904), vol. XXII, p. 121-125.
- Sampson, M. R.:** [Appearance of mackerel.] Bulletin, 1885 (1885), vol. V, p. 337.
- Sars, George Ossian:** [Relation of temperature to movements of cod near the Loffoden Islands.] Report, 1877 (1879), p. 650-651.
- Sherwood, George H., and Vinal N. Edwards:** [Notes on the migration of fishes of the Woods Hole region.] Bulletin, 1901 (1902), vol. XXI, p. 27-31.
- Slade, Elisha:** Dates of the appearance of herring, shad, bass, tautog, scup, frostfish, fish-hawks, kingfishers, and Greenland seals in Taunton River from 1871 to 1883, inclusive. Bulletin, 1883 (1883), vol. III, p. 478. F18-201
- Smith, Hugh McCormick:** [Notes on movements of schools of menhaden.] Bulletin, 1895 (1896), vol. XV, p. 299-300.
- Sterling, C.:** [Carp in Lake Erie.] Bulletin, 1884 (1884), vol. IV, p. 306.
- Stevenson, Charles Hugh:** [Migration of the shad.] Report, 1898 (1899), p. 106-110.
- Stone, Livingston:** [Migration and movements of the Sacramento salmon.] Report, 1872-3 (1874), p. 186-189.
- [Migrations and movements of the quinnat salmon.] Report, 1876 (1878), p. 803-807.
- Surface, H. A.:** [Habits of the lampreys of central New York.] Bulletin, 1897 (1898), vol. XVII, p. 209-215.
- Tanner, Zera Luther:** Movements of mackerel. Bulletin, 1883 (1883), vol. III, p. 471. F18-196
- Vail, David A.:** [Appearance of fish at Atlanticville, N. Y.] Bulletin, 1885 (1885), vol. V, p. 337.
- Wergeland, N.:** [Migrations of the fish of the Norwegian lakes.] Report, 1878 (1880), p. 539-604.

MARKING FISH.

- Atkins, Charles G.:** [Marking salmon for future identification.] Report, 1873-1875 (1876), p. 490-491.
- [Marking salmon.] Report, 1886 (1889), p. 751-752.

- Chamberlain, Frederick M., and Ward T. Bower: [Marked salmon: p. 29-31.] In Fishery and fur industries of Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914). *Doc. 780 issued Nov. 6, 1913.* F12-388
- Evermann, Barton Warren, and F. M. Chamberlain: Alaska fisheries and fur industries in 1911. (Marking salmon: p. 15.) Report and special papers, 1911 (1913). *Doc. 766 issued Dec. 16, 1912.* F12-388
- Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1907. (Salmon marking experiments: p. 27-29.) Report and special papers, 1907 (1909). *Doc. 632 issued April 16, 1908.*
- The fisheries of Alaska in 1908. (Salmon marking experiments: p. 57-59.) Report and special papers, 1908 (1910). *Doc. 645 issued Apr. 17, 1909.*
- The fisheries of Alaska in 1909. (Marked salmon: p. 26-27.) Report and special papers, 1909 (1911). *Doc. 730 issued Mar. 20, 1912.* 7-35263
- The fisheries of Alaska in 1910. (Return of marked salmon: p. 26-27.) Report and special papers, 1910 (1911). *Doc. 746 issued Apr. 19, 1911.*
- Smith, Hugh McCormick: [Cod-tagging experiments.] Report, 1898 (1899), p. CCLI.
- [Cod-tagging experiments.] Report, 1899 (1900), p. CXLV.
- Notes on the tagging of four thousand adult cod at Woods Hole, Massachusetts. Report, 1901 (1902), p. 193-208. *Doc. 491 issued Apr. 22, 1902.* F11-20

PREDACIOUS BEHAVIOR.

- Anderson, John: [Salmon eat herring.] Bulletin, 1883 (1883), vol. III, p. 429-430. F18-162
- Baird, Sponcer F.: [Bluefish most destructive to other fish.] Report, 1871-72 (1873), p. 240-246.
- [Squeteague destructive.] Report, 1871-72 (1873), p. 243.
- Campbell, J. B.: [Dolly Varden trout very destructive to all kinds of fish.] Bulletin, 1881 (1882), vol. I, p. 46.
- Collins, J. W.: Note on the destruction of mackerel by dogfish. Bulletin, 1884 (1884), vol. IV, p. 248. F18-300
- Dunn, Horace D.: Salmon not injured by catfish. Bulletin, 1887 (1889), vol. VII, p. 56. F18-648
- Earle, R. Edward: [Dogfish, halibut, and pollock destroy cod.] Report, 1878 (1880), p. 712-713.
- Fisher, F. B.: [Predacious fish in Florida.] Bulletin, 1881 (1882), vol. I, p. 251.
- Goode, G. Brown: [Predacious foes of the menhaden.] Report, 1877 (1879), p. 104-110.
- Hathaway, Walter E.: [Effects on the menhaden fishery of predatory fishes.] Bulletin, 1907 (1908), vol. XXVIII, p. 275-277.
- Kendall, William Converse: [Relation of menhaden to fishes that feed upon them.] Bulletin, 1908 (1910), vol. XXVIII, p. 290-293.
- [Pike as an enemy of carp.] Bulletin, 1882 (1883), vol. II, p. 3.
- Ryder, John Adam: [Notes on small fishes and water animals which prey on fish larvæ.] Bulletin, 1882 (1882), vol. II, p. 193-195.
- Carp do eat young fishes. Bulletin, 1884 (1884), vol. IV, p. 152. F18-258
- Sars, George Ossian: [Pollock destroy cod.] Report, 1877 (1879), p. 593.
- Smith, Hugh McCormick: [Enemies of the menhaden.] Bulletin, 1895 (1896), vol. XV, p. 299.
- Stranahan, J. J.: [Feeding pike perch fry to prevent cannibalism.] Report, 1894 (1896), p. 39.
- White, C. M.: Ability of carp to endure muddy, slimy, and stagnant water. Bulletin, 1883 (1883), vol. III, p. 444. F18-176

ARRANGEMENT BY FAMILIES.

SELACHII.

- Bartlett, John R.: [Sharks.] Bulletin, 1884 (1884), vol. IV, p. 315.
- Collins, Joseph William: Appearance of dogfish (*Squalus acanthias*) on the New England coast in winter. Bulletin, 1882 (1883), vol. II, p. 8. F18-60
- Gallup, B. Frank: Catching dogfish for oil and guano. Bulletin, 1882 (1883), vol. II, p. 246. F18-99
- Goode, George Brown: [The rays, torpedoes, and skates—Raïæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 665-668.

- Goode, George Brown:** [The saw-fish—*Pristis pectinatus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 668.
 — [The sharks—Squali.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 668-675.
 The Iceland shark-fisheries. Bulletin, 1885 (1885), vol. V., p. 301-304. F18-448
Jordan, David Starr: The sharks of the Pacific coast. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 675-676.
Moore, Henry Frank: The grayfish. Try it. It knocks H out of the H. C. of L. 8 p., illus. *Economic Circular 22 issued Nov. 29, 1916.* F17-107
 — Skates and rays. Interesting fishes of great food value, with 29 recipes for cooking them. 7 p., illus. *Economic Circular 34 issued Mar. 20, 1918.* F18-516
Parker, George Howard: Influence of the eyes, ears, and other allied sense organs on the movements of the dogfish, *Mustelus canis* (Mitchill). (List of references: p. 55-57.) Bulletin, 1909 (1910), vol. XXIX, p. 43-57. *Doc. 738 issued Nov. 18, 1910.* F10-1
 — The directive influence of the sense of smell in the dogfish. (Bibliography: p. 68.) Bulletin, 1913 (1914), vol. XXXIII, p. 61-68. *Doc. 798 issued Aug. 8, 1914.* F14-99
Radcliffe, Lewis: The sharks and rays of Beaufort, North Carolina. (Bibliography: p. 281-282.) Bulletin, 1914 (1916), vol. XXXIV, p. 239-284, illus., pl. XXXVIII-XLIX. *Doc. 822 issued Apr. 6, 1916.* F16-81
 — Sharks as food. With thirty recipes. 8 p. *Economic Circular 35 issued Apr. 29, 1918.* F18-683
Smith, Hugh McCormick: [A large skate.] Bulletin, 1894 (1895), vol. XIV, p. 287.

MARSIPOBRANCHII.

PETROMYZONTIDÆ.

- Goode, George Brown:** Notes on the lampreys (Petromyzontidæ). Bulletin, 1882 (1883), vol. II, p. 349-354. F12-372
 — [The lampreys—Petromyzontidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 677-681.
Riddle, George W.: Restocking the Merrimac River with lamprey eels. Bulletin, 1885 (1885), vol. V, p. 320. F18-464
Surface, H. A.: The lampreys of central New York. Bulletin, 1897 (1898), vol. XVII, p. 209-215, illus., pl. 10-11. *Doc. 372 issued Aug. 5, 1898.* F12-110

TELEOSTII.

ACIPENSERIDÆ.

- Borodin, N.:** An attempt to impregnate artificially the eggs of *Acipenser stellatus*. Bulletin, 1885 (1885), vol. V, p. 275-277. F18-436
Cobb, John Nathan: The sturgeon fishery of Delaware River and bay. Report, 1899 (1900), p. 369-380, pls. 18-21. *Doc. 429 issued Aug. 25, 1900.* F11-110
Dean, Bashford: Recent experiments in sturgeon hatching on the Delaware River. Bulletin, 1893 (1894), p. 235-239, illus. *Doc. 269 issued 1894.* F12-183
Goode, George Brown: [The sturgeons—Acipenseridæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 660-663.
Hovey, Horace Carter: The sturgeon fishery. Bulletin, 1884 (1884), vol. IV, p. 346-348. F14-114
Radcliffe, Lewis: Caviar: what it is and how to prepare it. 8 p., illus. (Selected bibliography: p. 7-8.) *Economic Circular 20 issued Apr. 19, 1916.* F16-86
Ryder, John Adam: The sturgeons and sturgeon industries of the eastern coast of the United States, with an account of experiments bearing upon sturgeon culture. (Literature relating to the sturgeon: p. 279-280.) Bulletin, 1888 (1890), vol. VIII, p. 231-328, pl. XXXVI-LIX. *Doc. 143 issued Mar. 25, 1891.* F11-324
U. S. Bureau of Fisheries: The artificial propagation of sturgeon in Schleswig-Holstein, Germany. Bulletin, 1889 (1891), vol. IX, p. 81-90. *Doc. 151 issued May 29, 1891.* F12-139

ALBULIDÆ.

- Goode, George Brown:** [The lady-fish family—Albulidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 612.

ALEPIDOSAURIDÆ.

Goode, George Brown: [The handsaw fish family—Alepidosauridæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 547-548.

ALEPOCEPHALIDÆ.

Goode, George Brown: [The Alepocephalus family—Alepocephalidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 548.

AMBLYOPSIDÆ.

Cox, Ulysses Orange: A revision of the cave fishes of North America. Report, 1904 (1905), p. 377-393. IV pl. *Doc. 579 issued Sept. 5, 1905.* F10-7

AMIIDÆ.

Coker, Robert Ervin: The bowfin: an old-fashioned fish with a new-found use. 4 p., illus. *Economic Circular 26 issued May 11, 1917.* F17-188

Goode, George Brown: [The bowfins—Amiidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 659-660.

Shufeldt, Robert Wilson: The osteology of *Amia calva*, including certain special references to the skeleton of Teleosteans. Report, 1883 (1885), 132 p., XIV pl. *Doc. 90 issued Mar. 19, 1885.* F11-305

AMMODYTIDÆ.

Goode, George Brown: [The lant, or sand eel—*Ammodytes americanus*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 244-246.

ANARHICHADIDÆ.

Goode, George Brown: [The wolf fishes or sea catfishes—Anarhichadidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 248-250.

ANGUILLIDÆ.

Brocchi, P.: [Eels.] Bulletin, 1886 (1887), vol. VI, p. 136.

Eels in tanks and ponds. Bulletin, 1886 (1887), vol. VI, p. 91-92. F18-545

Goode, George Brown: [The eel—*Anguilla vulgaris*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 630-658.

— Notes on the life history of the eel, chiefly derived from a study of recent European authorities. (A list of the most important papers concerning the eel and its reproduction: p. 112-124.) Bulletin, 1881 (1882), vol. I, p. 71-124, illus. F12-335

Hermes, Otto: [The propagation of the eel.] Report, 1879 (1882), p. 457-462, illus. F17-2

— On the mature sexual organs of the conger eel (*Conger vulgaris*), with some observations on the male of the common eel (*Anguilla vulgaris* Flemming). Bulletin, 1881 (1882), vol. I, p. 126-130. F12-316

— The migration of eels. Report, 1884 (1886), p. 1123-1126. F17-139

Hinkelmann, Herr: The mode of life of eels. Bulletin, 1884 (1884), vol. IV, p. 389-390. F18-345

Jacoby, Leopold: The eel question. Report 1879 (1882), p. 463-483. F17-3

Jordan, David Starr, and Bradley M. Davis: A preliminary review of the apodal fishes or eels inhabiting the waters of America and Europe. Report, 1888-89 (1892), p. 581-677. *Doc. 184 issued June 30, 1892.* F12-226

Lundberg, Rudolph: Eel fishing with so-called "hommor" (a species of fishpot) on the Baltic coast of Sweden and in the Sound. Report, 1883 (1885), p. 415-430, pl., illus. F17-33

Meek, Seth Eugene: A note on the Atlantic species of the genus *Anguilla*. Bulletin, 1883 (1883), vol. III, p. 430, incl. table. F18-163

— A note on the Cuban eel. Bulletin, 1884 (1884), vol. IV, p. 111. F13-87

Norny, E. R.: Artificial propagation of rockfish and eels. Bulletin, 1885 (1885), vol. V, p. 315. F18-461

- Nye, Willard:** Eels (*Anguilla rostrata*) in New Bedford water pipes. Bulletin, 1882 (1883), vol. II, p. 272. F18-102
- Pavesi, Pietro:** Observations on male eels. Bulletin, 1886 (1887), vol. VI, p. 222-224. F18-583
- Ryder, John Adam:** Note on the male organs of the eel. Bulletin, 1885 (1885), vol. V, p. 1-3. F18-364
- Sawyer, J. N.:** The breeding habits of the eel. Bulletin, 1886 (1887), vol. VI, p. 218-219. F18-581
- Syrski:** Lecture on the organs of reproduction and the fecundation of fishes and especially of eels. Report, 1873-74 and 1874-75 (1876), p. [719]-734, illus. F16-34
- Thompson, Edward H.:** Notes on the breeding of eels. Bulletin, 1884 (1884), vol. IV, p. 208. F18-283

ANTENNARIIDÆ.

- Goode, George Brown:** [The devil fishes—Antennariidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 173.

ATHERINIDÆ.

- Goode, George Brown:** [The sand smelts or silversides—Atherinidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 456-457.
- Kendall, William Converse:** Notes on the silversides of the genus *Menidia* of the east coast of the United States, with descriptions of two new subspecies. Report, 1901 (1902), p. 241-267, illus. Doc. 492 issued Apr. 28, 1902. 6-800
- Ryder, John Adam:** On the thread-bearing eggs of the silversides (*Menidia*). Bulletin, 1883 (1883), vol. III, p. 193-196, illus. F12-380

BALISTIDÆ.

- Goode, George Brown:** [The file-fish family—Balistidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 171-172.
- Luce, Thomas R.:** Occurrence of *Balistes capriscus* Gmelin (leather-jacket or file-fish), at New Bedford, Mass. Bulletin, 1883 (1883), vol. III, p. 469. F18-193
- Van Mater, J. H.:** Occurrence of *Balistes vetula* on the New Jersey coast. Bulletin, 1884 (1884), vol. IV, p. 13. F18-203

BATRACHOIDIDÆ.

- Goode, George Brown:** [The toad-fish—*Batrachus tau*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 251-253.
- Gudger, Eugene Willis:** Habits and life history of the toad-fish (*Opsanus tau*). (Literature cited: p. 1107-1109.) Bulletin, 1908 (1910), vol. XXVIII, p. 1071-1109, pl. CVII-CXIII. Doc. 709 issued Apr. 30, 1910. 10-35604

BELONIDÆ.

- Goode, George Brown:** [The silver garfishes—Belonidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 458-459.

BERYCIDÆ.

- Goode, George Brown:** [The Beryx family—Berycidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 361.

BLENNIIDÆ.

- Goode, George Brown:** [The blenny family—Blenniidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 250-251.
- Smith, Hugh McCormick:** Description of a new species of blenny from Japan. Bulletin, 1901 (1902), vol. XXI, p. 93-94. Doc. 485 issued Mar. 28, 1902. F12-270

BRAMIDÆ.

- Goode, George Brown:** [The hen-fish family—Bramidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 335.

BRANCHIOSTOMIDÆ.

Goode, George Brown: [The lancelets—Branchiostomidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 682.

BROTULIDÆ.

Goode, George Brown: [The red cusk family—Brotulidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 244.

CARANGIDÆ.

Goode, George Brown: The carangoid fishes of the United States—pompanos, crevalles amber-fish, etc. Bulletin, 1881 (1882), vol. I, p. 30-43. F12-332

— [The silver moon-fishes.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 322-323.

— [The cavally, the scad, and the jurels.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 323-326.

— [The pompanos—*Trachynotus carolinus*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 326-331.

— [The pilot-fish—*Naucrates ductor*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 330-331.

— [The amber-fishes and the leather-jackets.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 331-332.

CATOSTOMIDÆ.

Dresser, Henry: Notes on the natural history of the buffalo. Bulletin, 1883 (1883), vol. III, p. 436. F18-167

Evermann, Barton Warren: Description of a new sucker, *Pantosteus jordanii*, from the upper Missouri basin. Bulletin, 1892 (1894), vol. XII, p. 51-56, illus. *Doc.* 207 issued Jan. 27, 1893. F12-125

Jordan, David Starr: [The sucker family—Catostomidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 614-615.

Mosher, A. A.: Propagating buffalo fish. Bulletin, 1885 (1885), vol. V, p. 190. F18-403

CENTRARCHIDÆ.

Arnold, Isaac: Successful propagation of black bass. Bulletin, 1882 (1883), vol. II, p. 113-115. F18-85

Bartlett, Sylvester P.: The cultivation of crappies in ponds. Bulletin, 1883 (1883), vol. III, p. 362. F18-146

Bollman, Charles Harvy: A review of the Centrarchidæ or fresh-water sunfishes of North America. Report, 1888-89 (1892), p. 557-579, pl. LXVIII-LXXII. *Doc.* 190, issued June 30, 1892. F12-228

Borne, Max von dem.: The American black bass. Bulletin, 1882 (1883), vol. III, p. 221-224. F12-392

— Spawning in Germany of the large-mouthed black bass sent from the United States in 1882. Bulletin, 1884 (1884), vol. IV, p. 219. F18-288

— Report on black bass sent from America to Germany in 1883. Bulletin, 1884 (1884), vol. IV, p. 384. F18-342

Clagett, J. C.: [A large bass from the Potomac River.] Bulletin, 1884 (1884), vol. IV, p. 470.

Duclos, Gilbert: American silver perch, or calico bass. Bulletin, 1887 (1889), vol. VII, p. 215-216. F18-672

Goode, George Brown: [The black bass family—Centrarchidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 401-404.

Hensman, John T.: American black bass placed in the River Nene, England. Bulletin, 1884 (1884), vol. IV, p. 166. F18-261

Jordan, David Starr: [The sunfishes and their allies.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 404-407.

Lydell, Dwight: The habits and culture of the black bass. Bulletin, 1902 (1903), vol. XXII, p. 39-44, pl. 8. *Doc.* 513 issued Feb. 26, 1903. F12-57

Page, William F.: The propagation of black bass in ponds. Bulletin, 1893 (1894), vol. XIII, p. 229-236. *Doc.* 259 issued 1894. F12-183

- Pearse, Arthur Sperry:** Habits of the black crappie in inland lakes of Wisconsin. Appendix III, Report, 1918 (1920), 16 p., illus. *Doc. 867 issued June 24, 1919.* F12-29
- Sharp, John:** The large-mouthed black bass in Utah. Bulletin, 1897 (1898), vol. XVII, p. 363-368. *Doc. 395 issued 1898.* F12-110
- Smiley, Charles Wesley:** Removal of bass from Indiana to North Carolina by the United States Fish Commission. Bulletin, 1882 (1883), vol. II, p. 116. F18-86
- Smith, Hugh McCormick:** The common names of the basses and sunfishes. (Bibliography: p. 365-366.) Report, 1902 (1904), p. 353-366. *Doc. 538 issued Sept. 19, 1903.* F11-8

CHIMAERIDÆ.

- Goode, George Brown:** [The Chimæra family—Chimaeridæ.] In the fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 663.

CHIRIDÆ.

- Jordan, David Starr:** [The rock trouts—Chiridæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 267-268.

CICHLIDÆ.

- Goode, George Brown:** [The demoiselle and the cichlid families.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 275-276.

CLUPEIDÆ.

- Abbe, W. A.:** Proposed limitation of menhaden fishing to July 1, and of mackerel fishing to June 15. Occurrence of herring. Bulletin, 1883 (1883), vol. III, p. 468-469. F18-192
- Babbitt, John O.:** The injurious effect of menhaden steamers upon the food fisheries. Bulletin, 1883 (1883), vol. III, p. 463-464. F18-189
- Babcock, William C.:** Report of shad operations conducted at Fort Washington, Maryland. Report, 1883 (1885), p. 1035-1041; 1884 (1885), p. 189-192, pl. F17-35
- Barker, E. L.:** The incipency of the menhaden oil business. Bulletin, 1883 (1883), vol. III, p. 456. F18-184
- Bean, Tarleton Hoffman:** Movements of young alewives (?) (*Pomolobus* sp.) in Colorado River, Texas. Bulletin, 1881 (1882), vol. I, p. 69-70. F18-27
- [On the occurrence of the branch alewife in certain lakes of New York.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 588-593.
- Blackford, Eugene Gilbert:** Catch of shad in the Hudson River for 1885. Bulletin 1886 (1887), vol. VI, p. 294. F18-595
- Boeck, Axel., i. e., Jonas Axel and A. Feddersen:** The Norwegian herring fisheries. Report, 1873-5 (1876), p. 97-122. F16-7
- Buch, Sophus Andreas:** Spawning of spring herring near Norway. Bulletin, 1885 (1885), vol. V, p. 297-301. F18-447
- Carr, T. F. Robertson:** Notes on the Scotch herring fisheries. Bulletin, 1884 (1884), vol. IV, p. 60, 64 and 431. F18-221, F18-228. F18-356
- Cary, H. H.:** The Saint John's River as a shad stream. Bulletin, 1885 (1885), vol. V, p. 422. F18-489
- Chalker, Robert B.:** Catch of shad in Connecticut for 1885, 1886, and 1887. Bulletin, 1886 (1886), vol. VI, p. 297-298, 439-441; 1887 (1887), vol. VII, p. 112. F18-597
- Chapman, Pearson:** Habits of the shad and herring as they appear in the Potomac River to one who has watched them for fifty years. Bulletin, 1884 (1884), vol. IV, p. 61-64. F13-81
- Church, Daniel T.:** Why the size of mesh in menhaden seines should not be restricted. Bulletin, 1883 (1883), vol. III, p. 463. F18-188
- Clark, Frank Nelson:** Report of experiments for determining the smallest amount of water in which young shad and eggs can be kept. Report, 1881 (1884), p. 783-786. F16-340
- Notes on experiments in penning shad and taking eggs at Battery station, Havre de Grace, Md., in 1883. Report, 1883 (1885), p. 1045-1050. F17-37
- Collins, Joseph William:** Shad taken in mackerel gill-nets. Bulletin, 1882 (1883), vol. II, p. 95. F18-79

- Collins, Joseph William:** Notes on the herring fishery of Massachusetts Bay in the autumn of 1882. Bulletin, 1882 (1883), vol. II, p. 287-290. F12-264
- Crittenden, A. R.:** Catching alewives with hooks baited with eels. Bulletin, 1884 (1884), vol. IV, p. 255-256. F18-302
- Daniell, William C.:** Letters referring to the experiments of W. C. Daniell, M. D., in introducing shad into the Alabama River. Report, 1872 and 1873 (1874), p. 386-390. F15-108
- De Blois, E. T.:** The origin of the menhaden industry. Bulletin, 1881 (1882), vol. I, p. 46-51. F12-333
- Dempsey, W.:** Shad in the St. John's River, Florida. Bulletin, 1886 (1887), vol. VI, p. 96. F18-547
- Earll, R. Edward and Hugh M. Smith:** The American sardine industry in 1886. Bulletin, 1887 (1888), vol. VII, p. 161-192. fold. map. F11-252
- Eckardt, R.:** The experiments in propagating maifische (*Alosa vulgaris*) in 1876 and 1877. Report, 1877 (1879), p. [853]-866. F16-122
- Evermann, Barton Warren:** Description of a new species of shad (*Alosa alabamæ*) from Alabama. Report, 1895 (1896), p. 203-205. Doc. 335 issued Dec. 28, 1896. F11-198
- Description of a new species of shad (*Alosa ohioensis*), with notes on other food fishes of the Ohio River. Report, 1901 (1902), p. 273-288. Doc. 499 issued May 26, 1902. F11-24
- Ewart, James Cossar:** On the natural and artificial fertilization of sea herring eggs. Bulletin, 1884 (1884), vol. IV, p. 193-197. F13-95
- Ferguson, Thomas B.:** Extracts from a report of investigations of the shad fisheries and rivers south of Charleston, S. C., with a view to establishing stations for artificial propagation. Bulletin, 1884 (1884), vol. IV, p. 244-248. F18-299
- Finely, Charles I.:** Shad in Oregon waters—A new salmon hatchery. Bulletin, 1884 (1884), vol. IV, p. 88. F18-236
- Finn, W.:** The Iceland herring fisheries. Report, 1879 (1880), p. 493-496. F17-5
- Can herring live and increase in enclosed waters? Bulletin, 1884 (1884), vol. IV, p. 333-335. F18-325
- Fishing for shad in South American waters.** Bulletin, 1882 (1883), vol. II, p. 138. F18-92
- Friedlaender, Oscar O.:** Notes on the menhaden industry. Bulletin, 1882 (1883), vol. II, p. 252. F18-100
- Notes on the menhaden fishery. Bulletin, 1883 (1883), vol. III, p. 459-461. F18-186
- Notes on the menhaden fishing of 1883. Bulletin, 1884 (1884), vol. IV, p. 47-48. F11-211
- Gifford, George:** The disappearance of sardines from the Vendean coast, and its causes. Bulletin, 1882 (1883), vol. II, p. 13-14. F18-63
- Goode, George Brown:** The natural and economical history of the American menhaden. (Menhaden and other fish and their products as related to agriculture, by W. O. Atwater: p. 194-266.) Report, 1877 (1879), 529 p. F12-236
- [The herring family—*Clupea harangus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 549-568.
- [The menhaden—*Brevoortia tyrannus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 569-575.
- [The Gulf menhaden—*Brevoortia patronus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 575-577.
- [The inland alewife or skipjack—*Clupea chrysochloris*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 594.
- Grant, Isaac H.:** Movements of menhaden—Catch of herring. Bulletin, 1883 (1883), vol. III, p. 470. F18-195
- Greer, Rob Leon:** The menhaden industry of the Atlantic coast. Appendix III, Report, 1914 (1915), 27 p., VII pl. (incl. front.). Doc. 811 issued Apr. 7, 1915. F15-39
- The menhaden industry of the Atlantic coast. (Selected bibliography of papers relating to fish fertilizer: p. 30.) 30 p., VII pl. (incl. front.). Doc. 811 reprinted with additions Oct. 18, 1917. F17-263
- Griffith, William:** Results of planting shad in the Ohio River. Bulletin, 1882 (1883), vol. II, p. 12. F18-62
- Hall, Ansley:** The herring industry of the Passamaquoddy region, Maine. Report, 1896 (1898), p. 443-487 incl. tables. Doc. 360 issued 1897. F11-183
- Hamlen, William:** Reconnaissance of Florida rivers with a view to shad hatching. Bulletin, 1884 (1884), vol. IV, p. 206-208. F13-9

- Harding, Charles William:** Inquiries concerning the propagation of American smelt and shad, and notes on the fisheries of the Wash in England. *Bulletin*, 1881 (1882), vol. I, p. 428-429. F18-58
- Harrell, J. Dock:** Trapping gaspereau in Tangipahoa River. *Bulletin*, 1884 (1884), vol. IV, p. 448. F18-361
- Harris, Gwynn:** Report upon the shad and herring fisheries of the Potomac River for 1882-1886. *Bulletin*, 1883 (1883), vol. III, p. 477; 1884 (1884), vol. IV, p. 13, 221; 1885 (1885), vol. V, p. 192; 1886 (1886), vol. VI, p. 202. F18-202
- Hawkins, J. W.:** An opinion regarding the influence upon the coast fisheries of the steamers used in the menhaden fishery. *Bulletin*, 1881 (1882), vol. I, p. 266-268. F18-52
- Hildebrand, Samuel Frederick:** Two species of menhaden occurring on the coast of North Carolina. Appendix VI, Report, 1918 (1920), 7 p., illus., pl. *Doc. 871 issued Aug. 13, 1919.* F19-37
- Homergue, Louis C. d':** Reasons for restricting the use of steamers and seines in the menhaden industry. *Bulletin*, 1883 (1883), vol. III, p. 456-458. F18-185
- Huske, C. J.:** Shad fishing on the Edisto River. *Bulletin*, 1884 (1884), vol. IV, p. 165. F18-260
- Report on the shad work in South Carolina in 1883. Transportation of shad eggs on trays. *Bulletin*, 1884 (1884), vol. IV, p. 161-164. F13-91
- Jann, P. F.:** Catch of shad in the Delaware River for 1885 and 1886. *Bulletin*, 1886 (1887), vol. VI, p. 301-302. F18-599
- Jensen, Olaf Scheveland:** Report on the practical and scientific investigations of the spring herring fisheries during the year 1880, submitted to the Department of the interior. Report, 1880 (1883), p. 127-161. F16-288
- Jordan, David Starr:** [The herrings of the Pacific coast—*Clupea mirabilis*.] *Quoted by G. Brown Goode in The fisheries and fishery industries of the United States.* 1884. Sec. I, pt. III, p. 568-569.
- Kemp, N. H., and others:** The sardine canning industry of Eastport, Maine. (A petition to the Secretary of the treasury.) *Bulletin*, 1885 (1885), vol. V, p. 241-243. F18-416
- Laighton, Cedric:** The capture of shad at Isles of Shoals, New Hampshire. *Bulletin*, 1881 (1882), vol. I, p. 421. F18-54
- Lanman, Charles:** The shad and gaspereau or alewife of New Brunswick and Nova Scotia. Report, 1872 and 1873 (1874), p. 461-462. F16-66
- Lennurt, J. T.:** Catch of spawning shad in the Potomac, above Georgetown. *Bulletin*, 1883 (1883), vol. III, p. 440. F18-171
- Ljungman, Axel Vilhelm:** Preliminary report for 1873-74 on the herring and the herring fisheries on the west coast of Sweden. Report, 1873-74 and 1874-75 (1876), p. 123-168. F16-8
- The salt-water fisheries of Bohuslan and the scientific investigations of the salt-water fisheries. Report, 1878 (1880), p. 143-220. F16-157
- The great Bohuslan herring-fisheries. Report, 1878 (1880), p. 221-239. F16-158
- The propagation and growth of the herring and small-herring, with special regard to the coast of Bohuslan. Report, 1878 (1880), p. 639-659. F16-172
- Contribution towards solving the question of the secular periodicity of the great herring fisheries. Report, 1879 (1882), p. 497-503. F17-6
- Contributions towards a more correct knowledge of the herring's mode of life. Report, 1879 (1882), p. 505-513. F17-7
- What should be done by the government with regard to the great Bohuslan herring fisheries. A memorial addressed to the Council of state and the head of the Royal civil department [of Sweden]. Report, 1880 (1883), p. 99-126. F16-291
- The great herring fisheries considered from an economical point of view. Report, 1883 (1885), p. 341-357. F17-30
- Special results of the investigations relating to herring and herring fisheries on the west coast of Sweden made during the years 1873-1883. Report, 1883 (1885), p. 729-745. F17-34
- The future of the herring fisheries on the coast of Bohuslan. Report, 1884 (1886), p. 399-409. F17-132
- McDonald, Marshall:** [The shad and the alewives.] *In The fisheries and fishery industries of the United States.* 1884. Sec. I, pt. III, p. 579-609.
- Effect of waste products from Page's ammoniacal works upon young shad fry. *Bulletin*, 1885 (1885), vol. V, p. 313-315. F18-460
- Mather, Fred:** The shad fisheries of the Hudson. *Bulletin*, 1885 (1885), vol. V, p. 177-180. F18-398

- Meyer, Heinrich Adolf:** Biological observations made during the artificial raising of herrings in the western Baltic. Report, 1878 (1880), p. 629-638. F16-189
- Milner, James W.:** Report on the propagation of the shad (*Alosa sapidissima*) and its introduction into new waters by the U. S. fish commission in 1873. Report, 1872 and 1873 (1874), p. 419-451. F15-111
- Summary of fishing records, for shad and alewives kept at Willow Branch fishery, North Carolina, from 1835 to 1874. Bulletin, 1881 (1882), vol. I, p. 396-400 incl. tables. F12-338
- Moore, Henry Frank:** Observations on the herring and herring fisheries of the north-east coast, with special reference to the vicinity of Passamaquoddy Bay. Report, 1896 (1898), p. 387-442, pl. 60-62. Doc. 356 issued Feb. 8, 1898. F11-182
- Mordecai, E. R.:** Food of the shad of the Atlantic coast of the United States (*Alosa praestabilis* DeKay); and the functions of the pyloric coeca. Bulletin, 1881 (1882), vol. I, p. 277-282. F12-322
- New contributions to the herring question.** The dispute between Axel Boeck and Ossian Sars regarding the Norwegian summer-herring. Sars' recent observations and his new theory on the migrations of the herrings. Report 1873-74 and 1874-75 (1876), p. 195-211. F16-12
- Osborn, John H.:** Shad fishing on the Saint John's River. Bulletin, 1882 (1883), vol. II, p. 132. F18-89
- Page, William F.:** Effect of sunlight upon shad eggs. Bulletin, 1885 (1885), vol. V, p. 308. F18-453
- Polk, William R.:** Experience of a menhaden oil manufacturer in Northumberland County, Va. Bulletin, 1883 (1883), vol. III, p. 455. F18-183
- Rice, Henry J.:** Experiments upon retarding the development of eggs of the shad, made in 1879, at the United States shad-hatching station at Havre de Grace, Md. Report, 1881 (1884), p. 787-794. illus. F16-341
- Ryder, John Adam:** The Protozoa and Protophytes considered as the primary or indirect source of the food of fishes. Bulletin, 1881 (1882), vol. I, p. 236-251. F12-336
- Additional observation on the retardation of the development of the ova of the shad. Bulletin, 1881 (1882), vol. I, p. 422-424. F12-340
- Observations on the absorption of the yolk, the food, feeding, and development of embryo fishes, comprising some investigations conducted at the Central hatchery Armory building, Washington, D. C., in 1882. Bulletin, 1882 (1883), vol. II, p. 179-205. illus. F12-357
- The Protozoa and Protophytes considered as the primary or indirect source of the food of fishes. Report, 1881 (1884), p. 755-770. F16-338
- On the retardation of the development of the ova in the shad (*Alosa sapidissima*) with observations on the egg fungus and bacteria. (Second series of experiments conducted in association with Col. M. McDonald.) Report, 1881 (1884), p. 795-811. F16-342
- The Sardine fisheries.** Report, 1880 (1883), p. 163-165. F17-298
- The Scotch herring fisheries.** Bulletin, 1882 (1883), vol. II, p. 117-118; 1883 (1883), vol. III, p. 472. F18-87
- Smith, Everett:** Results of planting shad in the Kennebeck River. Bulletin, 1887 (1889), vol. VII, p. 16. F18-637
- Smith, Hugh McCormick:** The French sardine industry. Bulletin, 1901 (1902), vol. XXI. 26 p. Doc. 473 issued Sept. 26, 1901. F12-266
- Swan, James G.:** Shad in Puget Sound. Bulletin, 1882 (1883), vol. II, p. 152. F20-143
- U. S. Bureau of Fisheries:** Letters referring to the presence of shad in the rivers tributary to the Gulf of Mexico. [From John T. Knight, Isaac Pollard, George Lawrence, Will E. Turner, Holmes A. Pattison.] Report, 1872 and 1873 (1874), p. 391-395. F16-64
- The propagation and distribution of the shad. A. Operations in the distribution of shad in 1874, by J. W. Milner. B. Report on shad hatching in New Jersey, by G. A. Anderson. C. Voyage to Bremerhaven, Germany, with shad, by F. Mather. D. Living shad on their way to Weser. E. Shad hatching and distribution operations of 1875. Report, 1873-74 and 1874-75 (1876), p. 323-349. F16-18
- On the transportation of shad for long distances. A. Experiments with a view to transporting shad in sea-water, by James W. Milner. B. Experiments with a view to transporting shad a few months old, by Charles D. Griswold. C. Apparatus for hatching shad-ova while en route to new waters, by Fred Mather. Report, 1873-74 and 1874-75 (1876), p. [363]-376, illus. F16-20
- Vail, David F.:** Why the catching of menhaden with seines, etc., should be restricted. Bulletin, 1883 (1883), vol. III, p. 469. F18-194

- Wharton, Joseph:** Why menhaden seining should not be prohibited within two miles of the shore. *Bulletin*, 1883 (1883), vol. III, p. 462. F18-187
- Widegren, Hjalmar:** On the herring, and its preparation as an article of trade. Report, 1873-74 and 1874-75 (1876), p. 183-193. F16-11
- Wilcox, William A.:** Notes on the frozen-herring trade with Newfoundland and the Bay of Fundy during the winter of 1886-87. *Bulletin*, 1887 (1889), vol. VII, p. 71-73 incl. tables. F18-655
- Willis, H.:** Shad fisheries of the Susquehanna River fifty-six years ago. *Bulletin*, 1881 (1882), vol. I, p. 261-263. F18-49
- Wood, William Maxwell:** Report of an examination of the shad fisheries in Georgetown, S. C. *Bulletin*, 1884 (1884), vol. IV, p. 140-141. F18-249
- Report of a trip made by the *Fish Hawk* to the lower part of Chesapeake Bay, to ascertain the character of the fisheries for shad, herring, etc., in the spring of 1884. *Bulletin*, 1884 (1884), vol. IV, p. 199-200. F18-281
- Report of a trip by steamer *Fish Hawk* to the Saint Mary's and Saint John's rivers to hatch shad. *Bulletin*, 1884 (1884), vol. IV, p. 241-242. F18-297
- Reconnaissance of the shad fisheries of Winyaw Bay and its tributaries by the steamer *Fish Hawk*. *Bulletin*, 1884 (1884), vol. IV, p. 242-243. F18-298
- Worth, Stephen G.:** Shad hatching and carp culture. *Bulletin*, 1882 (1883), vol. II, p. 26-27. F18-71
- A poor season for shad hatching in North Carolina. *Bulletin*, 1882 (1883), vol. II, p. 54. F18-74
- Observations on the spawning habits of the shad. *Bulletin* 1891 (1893), vol. XI, p. 201-206. *Doc. 209 issued Mar. 11, 1893.* F12-127
- Possible expansion of shad-hatchery work. *Bulletin*, 1908 (1910), vol. XXVIII, part II, p. 789-793. *Doc. 678 issued April, 1910.* 10-35420
- Wright, Harrison:** On the early shad fisheries of the north branch of the Susquehanna River. Report, 1881 (1884), p. 619-642. F16-334
- Wyoming Historical and Geological Society, Wilkesbarre, Pa.:** Report of a committee of the Wyoming historical and geological society on the early shad fisheries of the north branch of the Susquehanna River. By Harrison Wright, chairman of the committee. *Bulletin*, 1881 (1882), vol. I, p. 352-379. F11-218
- Yarrow, Harry Crécy:** Report of a reconnaissance of the shad rivers south of the Potomac. Report, 1872 and 1873 (1874), p. 396-402. F15-109
- Notes on the natural history of the shad as observed at Beaufort, North Carolina. Report, 1872 and 1873 (1874), p. 452-455. F15-112

CORYPHÆNIDÆ.

- Goode, George Brown:** [The dolphins—Coryphænidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 332.

COTTIDÆ.

- Goode, George Brown:** [The sculpin tribe—Cottidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 258-260.
- Greeley, Arthur White:** Notes on the tide-pool fishes of California, with a description of four new species. *Bulletin*, 1899 (1901), vol. XIX, p. 7-20, illus. *Doc. 425 issued Dec. 13, 1899.* F12-41

CYPRINIDÆ.

- Barnes, A. G.:** Growth and spawning of German carp in Alabama. *Bulletin*, 1881 (1882), vol. I, p. 424-425. F18-56
- Behr, Friedrich von:** Management of spawning carp. *Bulletin*, 1883 (1883), vol. III, p. 392. F18-148
- Five recipes for cooking carp. *Bulletin*, 1886 (1887), vol. VI, p. 276.
- Blackford, E. G.:** Carp in an instalment of shad from James River. *Bulletin*, 1884 (1884), vol. IV, p. 112. F18-237
- Borne, Max von dem:** Raise carp. Report, 1880 (1883), p. 673-680. F16-274
- How to raise carp and other pond fish which spawn in summer. Report, 1883 (1885), p. 1133-1142. F11-248
- A large catch of carp. *Bulletin*, 1886 (1887), vol. VI, p. 116. F18-554
- Brakeley, John H.:** Plants for carp ponds. *Bulletin*, 1884 (1884), vol. IV, p. 159-160. F18-259
- Butcher, E. Z.:** How to avoid a soft or muddy taste of carp. *Bulletin*, 1884 (1884), vol. IV, p. 205. F18-282
- Canfield, Harry L.:** The capture and marketing of carp. Seasons and localities of capture. 7 p. *Economic Circular 40 issued Sept. 20, 1918.* F18-699

- The Carp fisheries in the Peitz Lakes. Report, 1878 (1880), p. 675-678. F16-176
- Carp in France. Bulletin, 1886 (1887), vol. VI, p. 203-204. F18-574
- The Carp ponds belonging to the State of Texas. Bulletin, 1884 (1884), vol. IV, p. 230-231. F18-293
- Cary, H. H.: Period of incubation of eggs of German carp. Bulletin, 1883 (1883), vol. III, p. 447. F18-179
- Cole, Leon Jacob: The German carp in the United States. (Bibliography: p. 637-641.) Report, 1904 (1905), p. 523-641, illus., III pl. *Doc. 592 issued Dec. 30, 1905.* F12-327
- Couchman, J. W.: Transporting carp from the United States Fish commission to Brazil. Bulletin, 1882 (1883), vol. II, p. 382. F18-110
- On the culture of the carp. A. On carp ponds, by A. F. B. Carp culture in East Prussia, by R. Struvy. C. Carp ponds. (From *Landwirthschaft und industrie*. Berlin, 1875. Tr. by C. F. Himes.) Report, 1873-74 and 1874-75 (1876), p. 549-558. F16-28
- Davis, H. B.: Gratifying results of propagating German carp—Bream and carp in ponds together—Table qualities of carp. Bulletin, 1882 (1883), vol. II, p. 317-318. F18-109
- Dolge, Alfred: The preparation and cooking of carp. Bulletin, 1886 (1887), vol. VI, p. 204-205. F18-575
- Donaldson, R. J.: Raising carp in rice-fields. Bulletin, 1885 (1885), vol. V, p. 283-284. F18-440
- Duke, R. T. W.: A four-pound carp lives eight hours out of water by being packed in wet moss. Bulletin, 1884 (1884), vol. IV, p. 16. F18-207
- Eben-Bauditten: On carp-culture, chiefly in its relation to agriculture. Report, 1878 (1880), p. 667-670. F15-174
- Eckardt, George: The peculiarities of blue carp. Bulletin, 1881 (1882), vol. I, p. 389-390.
- Carp propagation and blue carp. Bulletin, 1882 (1883), vol. II, p. 168. F18-95
- Eckardt-Lübbinchen, R.: Report on the propagation and growth of carp. Report 1879 (1882), p. 671-673. F17-17
- Finsch, Otto: Report on the transportation of a collection of living carp from Germany. Report, 1879 (1882), p. 667-670. F17-16
- [Varieties of carp in Germany.] Bulletin, 1881 (1882), vol. I, p. 220.
- Report on a trip in Germany to secure carp for the United States Fish commission. Bulletin, 1881 (1882), vol. I, p. 220-225. F18-43
- Fuller, Thomas: Carp in England in the seventeenth century. (From "Worthies of England, 1662.") Bulletin, 1884 (1884), vol. IV, p. 14. F18-204
- Gaines, Kemp: Growth, spawning, and distribution of German carp reared from 20 fish furnished by the U. S. Fish commission, November 29, 1880. Bulletin, 1882 (1883), vol. II, p. 392. F18-111
- Gasch, Adolf: Pond culture—The food and spawning of carp. Report, 1883 (1885), p. 1143-1150. F17-41
- Gerber, C.: How to cook carp. Bulletin, 1884 (1884), vol. IV, p. 151-152. F18-257
- Gillespie, Samuel: Growth and food of carp. Bulletin, 1882 (1883), vol. II, p. 300. F18-105
- Gross, Julius: Another receipt for cooking carp. Bulletin, 1886 (1887), vol. VI, p. 277. F18-591
- Hessel, Rudolph: The carp and its culture in rivers and lakes; and its introduction into America. Report, for 1875-76 (1878), p. 865-900, illus. *Doc. 27 issued Apr. 20, 1881.* F12-218
- Arrival of blue carp from Germany. Bulletin, 1883 (1883), vol. III, p. 443. F18-174
- [The carp—*Cyprinus carpio*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 618-627.
- Notes on the habits of the golden ide (*Idus auratus*). Bulletin, 1885 (1885), vol. V, p. 254-255. F18-424
- Notes from the carp ponds. Bulletin, 1885 (1885), vol. V, p. 435. F18-498
- Heyser, E.: Growth of mirror carp sent to Georgia by the U. S. Fish commission. Bulletin, 1882 (1883), vol. II, p. 18. F18-67
- How to cook carp and tench. Bulletin, 1884 (1884), vol. IV, p. 139-140. F18-248
- Hudson, George A.: Carp caught in Ogeechee River. Bulletin, 1884 (1884), vol. IV, p. 123. F18-241
- Hunger, Oscar: Varieties of carp in Saxony. Bulletin, 1883 (1883), vol. III, p. 405. F18-151

- Introduction** of the aland or orfe into England. Bulletin, 1881 (1882), vol. I, p. 218-220. F18-42
- Johnson, Samuel:** Growth of German carp sent to Sayoy, Texas, by the U. S. Fish commission. Bulletin, 1882 (1883), vol. II, p. 14. F18-64
- Jordan, David Starr:** [The carp family—Cyprinidae.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 616-618.
- Juday, Chancey:** List of fishes collected in Boulder County, Colorado, with description of new species of *Leuciscus*. Bulletin, 1904 (1905), vol. XXIV, p. 223-227, illus. Doc. 565 issued Mar. 17, 1905. F12-50
- Kirsch, M.:** The gold orfe (*Cyprinus orfus*). A. On the raising of the "gold orfe" (*Cyprinus orfus*), by M. Kirsch. B. Correspondence relating to the golde-orfe, by C. Th. E. v. Siebold. Report, 1873-74 and 1874-75 (1876), p. 559-562. F16-29
- Leonhardt, G.:** Information concerning the blue carp. Bulletin, 1882 (1883), vol. II, p. 15. F18-66
- McDonald, Marshall:** Experiments in the transportation of the German carp in a limited supply of water. Bulletin, 1881 (1882), vol. I, p. 215-218. F12-321
- Distribution of German carp by the United States Fish commission. Bulletin, 1882 (1883), vol. II, p. 94. F12-349
- Macgowan, Daniel J.:** Carp culture in China. Bulletin, 1885 (1885), vol. V, p. 235-241. F18-415
- Mackrill, Alfred:** A great carp. Bulletin, 1884 (1884), vol. IV, p. 75. F18-226
- Martin, Robert A.:** How to catch carp. Bulletin, 1885 (1885), vol. V, p. 449-450. F18-506
- Mather, Fred:** Exchange of live marine specimens with France. Bulletin, 1883 (1883), vol. III, p. 472. F18-198
- Matsubara, Shinnosuke:** Goldfish and their culture in Japan. Bulletin, 1908 (1910), vol. XXVIII, p. 381-397, col. pl. XVIII-XXVII. Doc. 666 issued Feb. 26, 1910. 10-35172
- Morriss, T. W.:** Spawning of carp in a small basin at Brenham, Texas. Bulletin, 1882 (1883), vol. II, p. 27. F18-72
- Mr. Christian Wagner's** establishment for raising goldfish, at Oldenberg, Germany. Report, 1878 (1880), p. 679-684. F16-177
- Nicklas, Carl:** Feeding carp with Indian corn. Bulletin, 1882 (1883), vol. II, p. 168. F18-96
- Production of young fry of the carp. Bulletin, 1883 (1883), vol. III, p. 401-406. F12-402
- The artificial feeding of carp. Report, 1882 (1884), p. 1009-1031. F16-324
- Palmer, B. D.:** Carp appear February 7, take the hook, and are excellent eating. Bulletin, 1884 (1884), vol. IV, p. 124. F18-244
- Pasco, I. D.:** A call for carp from Nevada. Bulletin, 1881 (1882), vol. I, p. 29-30. F18-13
- Peirce, Milton P.:** Resuscitation of apparently dead carp. Bulletin, 1884 (1884), vol. IV, p. 183. F18-275
- Phillips, Barnet:** Holland carp put into the Hudson River about 1830. Bulletin, 1882 (1883), vol. II, p. 25. F18-70
- Playfair, Lyon Playfair:** A foreigner's opinion of American fish-culture. Bulletin, 1885 (1885), vol. V, p. 367-369. F18-482
- Poppe, Robert A.:** The introduction and culture of the carp in California. Report, 1878 (1880), p. 661-666. F16-173
- Progress** and results of fish-culture (German carp). Bulletin, 1881 (1882), vol. I, p. 396. F20-139
- Quattlebaum, Paul:** Method of catching carp with a hook. Bulletin, 1884 (1884), vol. IV, p. 380. F18-338
- Redding, Joseph D.:** Character of the carp introduced by Capt. Henry Robinson about 1830. Bulletin, 1884 (1884), vol. IV, p. 266-267. F18-308
- Reighard, Jacob Ellsworth:** Methods of studying the habits of fishes with an account of the breeding habits of the horned dace. (Literature cited: p. 1135-1136.) Bulletin, 1908 (1910), vol. XXVIII, p. 1111-1136, illus., pl. CXIV-CXX. Doc. 710 issued May 5, 1910. 10-35605
- Riley, Charles Valentine:** Water-beetles destroying carp. Bulletin, 1885 (1885), vol. V, p. 311. F18-457
- Ryder, John Adam:** Carp do eat young fishes. Bulletin, 1884 (1884), vol. IV, p. 152. F18-258
- Care of goldfish. Queries of William Rosenstihl, jr., with replies. Bulletin, 1884 (1884), vol. IV, p. 381-382. F18-339

- Smiley, Charles W.:** 1. Notes on the edible qualities of German carp and hints about cooking them. 2. The German carp and its introduction in the United States. Bulletin, 1884 (1884), vol. III, p. 305-336. *Doc. 66 issued Nov. 29, 1883.*
F11-311
- How to distinguish the sex of carp. Bulletin, 1885 (1885), vol. V, p. 36-37.
F18-373
- Stocking the Stettiner Haff with carp.** Bulletin, 1882 (1883), vol. II, p. 1-8.
F18-59
- Taylor, Harden Franklin:** The carp: a valuable food resource. With twenty-three recipes selected of German, American, and Swedish origin; and also furnished by Frants P. Lund. 1917, 7 p. *Economic Circular 31 issued Sept. 26, 1917.*
F17-258
- Thompson, Edward:** Edible qualities of carp. Bulletin, 1884 (1884), vol. IV, p. 176.
F18-268
- Trybon, Filip, i. e. Arvid Filip:** Carp culture in Sweden. Bulletin, 1886 (1887), vol. VI, p. 156-160.
F18-565
- The tench recommended for cultivation in Sweden. Bulletin, 1886 (1887), vol. VI, p. 209-210.
F18-578
- Van Antwerp, W.:** Growth, edible qualities, and manner of cooking German carp received from the U. S. Fish commission in 1880. Bulletin, 1882 (1883), vol. II, p. 300.
F18-106
- [Varieties of German carp.] Bulletin, 1886 (1887), vol. VI, p. 467.
- Veckenstedt, Edm.:** On the carp ponds of Nether Lusatia. Report, 1878 (1880), p. 671-674.
F16-175
- Wheeler, L. T.:** A new method of protecting the eggs of carp and rearing the young. Bulletin, 1884 (1884), vol. IV, p. 221-222.
F18-291
- White, C. M.:** Ability of carp to endure muddy, slimy, and stagnant water. Bulletin, 1883 (1883), vol. III, p. 444.
F18-176
- Worth, Stephen G.:** The selection of sites and the construction of carp ponds. Bulletin, 1884 (1884), vol. IV, p. 33-37.
F13-79
- Wright, Abel A.:** A Georgia carp pond. Bulletin, 1881 (1882), vol. I, p. 68-69.
F18-26
- Yoakum, F. L.:** Carp culture in Texas. Bulletin, 1882 (1883), vol. II, p. 28-32.
F12-343
- Yost, John:** Report upon the management of German carp by a Mississippi correspondent. Bulletin, 1882 (1893), vol. II, p. 310.
F18-108
- Zenk, F.:** Prices of carp, tench, and goldorfe in Germany. Bulletin, 1883 (1883), vol. III, p. 406.
F18-152
- Zentz, F.:** On the races or varieties of carp, denying the existence of blue carp and gold carp. Bulletin, 1881 (1882), vol. I, p. 387-389.

DALLIIDÆ.

- Nelson, Edward William:** [The blackfish of Alaska—*Dallia pectoralis* Bean.] In The fishery industries of the United States. 1884. Sec. I, pt. III, p. 466-467.

DIODONTIDÆ.

- Goode, George Brown:** [The porcupine fishes—Diodontidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 170.

DOROSOMATIDÆ.

- Goode, George Brown:** [The mud-shad—*Dorosoma cepedianum*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 610.

ECHENEIDIDÆ.

- Goode, George Brown:** [The Remora family—Echeneididæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 446-447.

ELOPIDÆ.

- Goode, George Brown:** [The tarpum—*Megalops thrissoides*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 610-611.
- [The big-eyed herring—*Elops saurus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 611.
- Kenworthy, C. J.:** Food qualities of tarpum (*Megalops*). Bulletin, 1884 (1884), vol. IV, p. 80.
F18-230

EMBIOTOCIDÆ.

- Eigenmann, Carl H.:** [A review of the Embiotocidæ.] Bulletin, 1892 (1894), vol. XII, p. 382-400.
- Jordan, David Starr:** [The surf-fish family—Embiotocidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 276-279.

ENGRAULIDÆ.

- Goode, George Brown:** [The anchovies—Engraulidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 611-612.
- Swain, Joseph:** A review of the species of *Stolephorus* found on the Atlantic coast of the U. S. Bulletin, 1882 (1883), vol. II, p. 55-57. F12-346

EPHIPPIDÆ.

- Goode, George Brown:** [The moon-fish—*Chætodipterus faber*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 445-446.

ESOCIDÆ.

- Goode, George Brown:** [The pike family—Esocidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 461-466.
- Kendall, William Converse:** The pikes: their geographical distribution, habits, culture, and commercial importance. (Bibliography: p. 42-45.) Appendix V, Report, 1917 (1919), 45 p., illus. Doc. 853 issued Sept. 27, 1917. F17-262
- Ryder, John Adam:** Development of the silver gar (*Belone longirostris*), with observations on the genesis of the blood in embryo fishes, and a comparison of fish ova with those of other vertebrates. Bulletin, 1881 (1882), vol. I, p. 283-301, pl. XIX-XXI. F12-323
- Walke, E. H.:** Spawning of *Esox* (pike or pickerel) in North Carolina. Bulletin, 1883 (1883), vol. III, p. 295. F18-139

FIERASFERIDÆ.

- Goode, George Brown:** [The Fierasfer family—Fierasferidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 243.

GADIDÆ.

- On the Artificial raising of cod in America. Bulletin, 1883 (1883), vol. III, p. 428.
- Atwood, Nathaniel E.:** Unexplained variations in the yield of oil from cod livers. Bulletin, 1883 (1883), vol. III, p. 431-432. F18-165
- Cobb, John Nathan:** Pacific cod fisheries. (Bibliography: p. 108-111.) Appendix IV, Report, 1915 (1917), 111 p. incl. tables, IX pl., fold. chart. Doc. 830 issued Oct. 23, 1916. F16-191
- The Codfisheries on the coast of Norway. Bulletin, 1882 (1883), vol. II, p. 138. F18-91
- Collins, Joseph William:** Success of the gill-net cod fishery on the New England coast, winter 1882-83. Bulletin, 1883 (1883), vol. III, p. 441-443. F18-173
- Some observations on the cod gill-net fisheries and on preservatives for nets. Bulletin, 1884 (1884), vol. IV, p. 58-59. F18-220
- What codfish sometimes swallow. Bulletin, 1884 (1884), vol. IV, p. 175. F18-267
- Unusual abundance of cod on Brown's Bank. Bulletin, 1885 (1885), vol. V, p. 234. F18-414
- A curious knife found in the flesh of a codfish. Bulletin, 1886 (1887), vol. VI, p. 381-383. F18-615
- Dambeck, Carl:** Geographical distribution of the Gadidæ or the cod family, in its relation to fisheries and commerce. Report, 1877 (1879), p. 531-557. F16-108
- Dunn, Matthias:** Number of eggs in the Gadidæ. Bulletin, 1884 (1884), vol. IV, p. 76. F18-228
- Earll, R. Edward:** A report on the history and present condition of the shore codfisheries of Cape Ann, Mass., together with notes on the natural history and artificial propagation of the species. Report, 1878 (1880), p. 685-740. F11-221
- Farlow, William Gibson:** On the nature of the peculiar reddening of salted codfish during the summer season. Report, 1878 (1880), p. 969-974. F20-120

- Goode, George Brown, and Joseph William Collins: The winter haddock fishery of New England. Bulletin, 1881 (1881), vol. I, p. 226-235. Doc. 31 issued 1881. F12-238
- [The cod—*Gadus morrhua*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 200-223.
- [The tom cods—*Microgadus tomcod* and *M. proximus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 223.
- [The haddock—*Melanogrammus aeglefinus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 223-228.
- [The pollock—*Pollachius carbonarius*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 228-233.
- [The cusk—*Brosmius brosme*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 233.
- Gundersen, H.: Drying codfish at Bordeaux. Bulletin, 1886 (1887), vol. VI, p. 84-86, illus. F18-542
- Haskell, E. H.: Second annual appearance of young cod hatched by the United States Fish commission in Gloucester Harbor in the winter of 1879-80. Bulletin, 1882 (1883), vol. II, p. 112. F18-84
- Krause, Karl E. H.: Cod and halibut fisheries near the Shumagin Islands. Bulletin, 1881 (1882), vol. I, p. 259-260. F18-47
- Leslie, Charles C.: Scarcity of blackfish—Mortality of codfish. Bulletin, 1882 (1883), vol. II, p. 132. F18-90
- McDonald, Marshall: Experimental investigations upon cod hatching at Woods Hole, Mass., during the winter of 1880-81. Report, 1881 (1884), p. 1127-1129, illus. F16-347
- Martin, Stephen J.: Cod-fishing with gill-nets in Ipswich Bay, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 264. F18-50
- Mather, Fred: Notes on cod, shrimp, etc., at Cold Harbor. Bulletin, 1884 (1884), vol. IV, p. 123. F18-242
- Mauriac, E.: Cases of poisoning caused by spoiled codfish, and the unnecessary prohibition of the sale of reddened codfish. Report, 1886 (1889), p. 1027-1053. F17-151
- Moore, Henry Frank: The burbot: A fresh-water cousin to the cod. 4 p., illus. Economic Circular 25 issued May 9, 1917. F17-236
- The haddock: one of the best salt-water fishes. 8 p., illus. Economic Circular 47 issued Aug. 18, 1920. F20-159
- Phillips, Barnet: A stray cod up the Hudson. Bulletin, 1883 (1883), vol. III, p. 416. F18-156
- Rathbun, Richard: Summary of the fishery investigations conducted in the north Pacific Ocean and Bering Sea from July 1, 1888, to July 1, 1892, by the U. S. Fish commission steamer *Albatross*. Bulletin 1892 (1894), vol. XII, p. 127-201, pl. LI-LV. Doc. 228 issued Feb. 6, 1894. F12-163
- Rognerud, Carl: Hatching cod in Norway. Bulletin, 1887 (1889), vol. VII, p. 113-119. F18-660
- Sars, George Ossian: Report of practical and scientific investigations of the cod fisheries near the Loffoden Islands, made during the years 1864-1869. Report, 1877 (1879), p. 565-611. F16-110
- Report of practical and scientific investigations of the cod fisheries near the Loffoden Islands, made during the years 1870-1873. Report, 1877 (1879), p. 612-661. F16-111
- Smith, Everett: A mammoth cod. Bulletin, 1883 (1883), vol. III, p. 443. F18-175
- Tarr, Ralph Stockman: Return to Gloucester Harbor of the young codfish hatched by the U. S. Fish commission. Bulletin, 1884 (1884), vol. IV, p. 57-58. F18-219
- Tibbetts, N. V.: Scarcity of cod and haddock on the coast of Maine. Bulletin, 1886 (1887), vol. VI, p. 75-76. F18-537
- Trolle, C.: The Iceland cod fisheries in 1883. Report, 1883 (1885), p. 371-382. F17-31
- Wilcox, William A.: Reappearance of young cod hatched by the United States Fish commission. Bulletin, 1883 (1883), vol. III, p. 439. F18-170
- GASTEROSTEIDÆ.
- Goode, George Brown: [The stickleback family—Gasterosteidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 457-458.
- Ryder, John Adam: Notes on the development, spinning habits, and structure of the four-spined stickleback, *Apeltes quadracus*. Bulletin, 1881 (1882), vol. I, p. 24-29. F12-331

GERRIDÆ.

Goode, George Brown: [The moharra family—Gerridæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 279.

GOBIIDÆ.

Goode, George Brown: [The gobies—Gobiidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 255.

HEXAGRAMMIDÆ.

Moore, Henry Frank: The sablefish, alias black cod. An introduction to one of the best and richest of American food fishes, with recipes for cooking it [by Mary F. Rausch and J. C. Grant]. 6 p., illus. *Economic Circular 23 issued Mar. 8, 1917.*

F17-155

Swan, James Gilchrist: Report on black cod of the north Pacific Ocean. Bulletin 1885 (1885), vol. V, p. 225-234.

F18-413

HIPPOCAMPIDÆ.

Goode, George Brown: [The sea-horse family—Hippocampidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 172.

Ryder, John Adam: A contribution to the development and morphology of the Lophobranchiates (*Hippocampus antiquorum*) the sea-horse. Bulletin, 1881 (1882), vol. I, p. 191-199.

F12-320

HYODONTIDÆ.

Goode, George Brown: [The moon-eye family—Hyodontidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 612-613.

ICOSTEIDÆ.

Goode, George Brown: [The Icosteus family.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 361.

ISTOPHORIDÆ.

Barnes, William M.: Supposed occurrence of sail-fish, *Histiophorus*. Bulletin 1883 (1883), vol. III, p. 423-424

F18-159

LABRIDÆ.

Goode, George Brown: [The tautog or black-fish—*Tautoga onitis*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 268-273.

———[The chogset or cunner—*Ctenolabrus adspersus*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 273-274.

Jenkins, Oliver Peebles: Descriptions of new species of fishes from the Hawaiian Islands, belonging to the families of Labridæ and Scaridæ. Bulletin, 1899 (1901), vol. XIX, p. 45-63, illus. *Doc. 433 issued Aug. 30, 1900.*

F12-45

Jordan, David Starr: A review of the labroid fishes of America and Europe. Report, 1887 (1890), 101 p. XI pl. *Doc. 173 issued Aug. 24, 1891.*

F11-335

LAMPRIDÆ.

Goode, George Brown: [The opah family—Lamprididæ.] *In* The fisheries and fishery industries of United States. 1884. Sec. I, pt. III, p. 335.

Jordan, David Starr: Note on the occurrence of the opah, *Lampris guttatus*, on the Grand Banks. Bulletin, 1887 (1889), vol. VII, p. 202.

F18-668

LOPHIIDÆ.

Goode, George Brown: [The goose fishes—*Lophius piscatorius*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 173-174.

LEPIDOSTEIDÆ.

Goode, George Brown: [The gar-pike—Lepidosteidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 663-665.

LEPTOCEPHALIDÆ.

- Eigenmann, Carl H.:** The egg and development of the conger eel. Bulletin, 1901 (1902), vol. XXI, p. 37-44, illus. Doc. 476 issued Oct. 2, 1901. F12-263
- Eigenmann, Carl H., and Clarence Hamilton Kennedy:** The Leptocephalus of the American eel and other American Leptocephali. Bulletin, 1901 (1902), vol. XXI, p. 81-92, illus. Doc. 480 issued Mar. 31, 1902. F12-269

LIPARIDIDÆ.

- Goode, George Brown:** [The lump-suckers: lump-fish and sea snails.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 253-255.

LOBOTIDÆ.

- Goode, George Brown:** [The triple-tail or black perch—*Lobotes surinamensis*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 444-445.

LOPHIIDÆ.

- Smith, Hugh McCormick:** Commercial possibilities of the goosefish: a neglected food. With 10 recipes, prepared by Charles Doucot. 5 p. *Economic Circular* 13 issued Dec. 14, 1915. F14-131

LUTIANIDÆ.

- Collins, Joseph William:** The red snapper grounds in the Gulf of Mexico. Bulletin, 1885 (1885), vol. V, p. 145-146. F18-393
- Notes on the red snapper fishery. Based on information gathered from Capt. Silas Latham. Bulletin, 1886 (1887), vol. VI, p. 299-300. F18-598
- Goode, George Brown:** [The grunts or pig-fishes—Diabasis.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 397-400.

LYCODIDÆ.

- Goode, George Brown:** [The lycodes family—Lycodidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 247-248.

MACROURIDÆ.

- Goode, George, Brown:** [The Grenadier family (Macruridæ).] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 244.
- Jordan, David Starr, and Edwin Chapin Starks:** List of fishes dredged by the steamer *Albatross* off the coast of Japan in the summer of 1900, with descriptions of new species and a review of the Japanese Macrouridæ. Bulletin, 1902 (1904), vol. XXII, p. 577-630, illus., 8 pl. Doc. 551 issued Aug. 13, 1904. F12-51

MALACANTHIDÆ.

- Bumpus, Hermon Cary:** The reappearance of the tilefish. Bulletin, 1898 (1899), vol. XVIII, p. 321-333. Doc. 416 issued Oct. 30, 1899. F12-32
- Collins, Joseph William:** Report upon a cruise made to the tilefish ground in the smack *Josie Reeves*, September, 1882. Bulletin, 1882 (1883), vol. II, p. 301-310. F18-107
- History of the tilefish. Report, 1882 (1884), p. 237-294. II pl. Doc. 81 issued Aug. 15, 1884. F11-268
- Goode, George Brown:** [The tilefish family—Latilidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 360-361.
- Lucas, Frederic Augustus:** The osteology and immediate relations of the tilefish, *Lopholatilus chamaeleonticeps*. Bulletin, 1904 (1905), vol. XXIV, p. 81-86, illus. Doc. 559 issued Feb. 14, 1905. F12-3
- Silvester, Charles Frederick:** The blood-vascular system of the tilefish *Lopholatilus chamaeleonticeps*. (Literature: p. 112-114.) Bulletin, 1904 (1905), vol. XXIV, p. 87-114, illus., fold. col. pl. Doc. 560 issued Feb. 14, 1905. F12-4
- Smith, Hugh McCormick:** [Reappearance of the tilefish.] Report, 1897 (1898), p. CXXI.
- [Reappearance of the tilefish.] Report, 1899 (1900), p. CXXX.
- U. S. Bureau of Fisheries:** The tilefish: a new deep-sea food fish. With 12 recipes for cooking it, by Charles Doucot. 6 p., illus. *Economic Circular* 19 issued Sept. 30, 1915. F15-156

MALTHEIDÆ.

Goode, George Brown: [The devil fishes—Antennariidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 173.

MERLUCCIIDÆ.

Goode, George Brown: [The silver hake and the merluccio.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 240-243.

Nye, Willard: Habits of whiting or frost-fish (*Merlucius bilinearis* Mitch.). Bulletin, 1886 (1887), vol. VI, p. 208. F18-577

MICROSTOMIDÆ.

Goode, George Brown: [The smelt family—Microstomidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 543-547.

MONACANTHIDÆ.

Smith, Hugh McCormick: Notice of a filefish new to the fauna of the United States. Bulletin, 1898 (1899), vol. XVIII, p. 273-278, illus., col. pl. Doc. 412 issued Nov. 1, 1899. F12-98

MUGLIDÆ.

Bean, Tarleton Hoffman: Report on the proposed introduction of the Jamaica mountain mullet into the United States. Bulletin, 1888 (1890), vol. VIII, p. 443-451. Doc. 145 issued Apr. 25, 1891. F11-326

Goode, George Brown: [The mullets—*Mugil albula* and *Mugil brasiliensis*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 449-456.

Hoxie, Walter: Occurrence of mullet in fresh water. Bulletin, 1884 (1884), vol. IV, p. 80. F18-229

Miller, John F.: Proposed introduction of Hawaiian mullet into the United States. Bulletin, 1884 (1884), vol. IV, p. 141-142. F1-250

Phillips, Barnet: Some notes on the mullet fisheries. Bulletin, 1884 (1884), vol. IV, p. 135-137. F13-89

Ravenel, William de Chastignier: Information bearing upon the artificial propagation of mullet. Bulletin, 1887 (1889), vol. VII, p. 197-202. F18-667

MULLIDÆ.

Goode, George Brown: [The red mullet family—Mullidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 361.

MURÆNIDÆ.

Goode, George Brown: [The morays—Murænidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 629.

MYXINIDÆ.

Goode, George Brown: [The hag-fishes—Myxinidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 681-682.

NOMEIIDÆ.

Eigenmann, Carl H.: Description of a new oceanic fish found off southern New England. Bulletin, 1901 (1902), vol. XXI, p. 35-36. Doc. 475 issued Oct. 22, 1901. F12-267

OPHIDIIDÆ.

Goode, George Brown: [The sand cusk family—Ophidiidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 243-244.

ORTHAGORISCIDÆ.

Goode, George Brown: [The ocean sun fishes—Orthagoriscidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 169-170.

OSPHROMENIDÆ.

- Gill, Theodore Nicholas: Natural and economical history of the gourami (*Osphromenus goramy*). Report, 1872 and 1873 (1874), 21 p., pl. XXXV-XXXVI. F11-205
- Matte, Paul: [Receipt of paradise fish (*Macropodus venustus*) from Germany.] Bulletin, 1885 (1885), vol. V, p. 85.

OSTRACIDÆ.

- Goode, George Brown: [The trunk fishes—Ostraciontidae.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 170.

PARALEPIDÆ.

- Goode, George Brown: [The paralepis family—Paralepidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 548.

PERCIDÆ.

- Evermann, Barton Warren: Descriptions of two new species of darters from Lake Maxinkuckee, Indiana. Report, 1899 (1900), p. 363-367, pl. 17. Doc. 428 issued Aug. 20, 1900. F11-109
- Goode, George Brown: [The yellow perch—*Perca americana*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 414-417.
- [The pike perches.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 417-424.
- Jordan, David Starr: [The log perch—*Percina caprodes* (Raf.) Grd.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 417.
- Kirsch, Philip H.: Notes on the streams and fishes of Clinton County, Kentucky, with a description of a new darter. Bulletin, 1890 (1892), vol. X, p. 289-292. illus. Doc. 197 issued Sept. 14, 1892. F12-131
- Moenkhaus, William J.: Description of a new species of darter from Tippecanoe Lake. Bulletin, 1902 (1904), vol. XXII, p. 395-398. illus. Doc. 530 issued Aug. 8, 1903. F12-170
- Pearse, A. S., and Henrietta Achtenberg: Habits of yellow perch in Wisconsin lakes. (Bibliography: p. 363-366.) Bulletin, 1917-1918 (1921), vol. XXXVI, p. 293-366, illus., pl. LXXXIII. Doc. 885 issued Aug. 4, 1920. F20-158
- Radcliffe, Lewis, and William W. Welsh: Description of a new darter from Maryland. Bulletin, 1912 (1913), vol. XXXII, p. 29-32, pl. XVIII. Doc. 773 issued May 24, 1913. F13-123
- Worth, Stephen G.: Observations on the hatching of the yellow perch. Bulletin, 1890 (1892), vol. X, p. 331-334, pl. LXI. Doc. 201 issued Sept. 24, 1892. F12-120

PLEURONECTIDÆ.

- Alexander, Alvin Burton: Notes on the halibut fishery of the northwest coast in 1895. Bulletin, 1897 (1898), vol. XVII, p. 141-144. Doc. 359 issued Feb. 8, 1898. F12-244
- Preliminary examination of halibut fishing grounds of the Pacific coast. With introductory notes on the halibut fishery, by H. B. Joyce. Report and special papers, 1911 (1913), 56 p. Doc. 763 issued July 22, 1912. F12-203
- Anthony, Raoul Louis Ferdinand: The cultivation of the turbot. Bulletin, 1908 (1910), vol. XXVIII, p. 859-870, pl. CII-CIII, diags. Doc. 636 issued April, 1910. 10-35563
- Baird, Spencer Fullerton: [Pole-flounder (*Glyptocephalus cynoglossus*) abundant on coast of New England.] Report, 1877 (1879), p. 4*-5*. F16-9
- Broca, P. de: The halibut fishery of the United States. Report, 1873-74 and 1874-75 (1876), p. 169-171. F12-365
- Collins, Joseph William: Notes on the halibut fisheries of 1881-82. Bulletin, 1882 (1883), vol. II, p. 311-316. F18-362
- On the abundance of halibut near Iceland. Bulletin, 1884 (1884), vol. IV, p. 463-464. F17-128
- The Icelandic halibut fishery. An account of the voyages of three Gloucester schooners to the fishing grounds near the north coast of Iceland. Report, 1884 (1885), p. 289-300, incl. tables. F12-244
- Goode, George Brown: [The plaice—*Paralichthys dentatus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 178-182.
- The bastard halibut—*Paralichthys maculosus* Girard.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 182.

- Goode, George Brown: [The halibut—*Hippoglossus vulgaris*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 189-197.
- [The sand dab or rough dab—*Hippoglossoides platessoides*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 197.
- [The Greenland turbot—*Platysomachthys hippoglossoides*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 197-198.
- [The pole flounder or craig flounder—*Glyptocephalus cynoglossus*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 198-199.
- [The spotted sand flounder—*Lophopsetta maculata*.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 199.
- Jordan, David Starr: [The flat fishes and soles of the Pacific coast.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 184-189.
- A review of the flounders and soles (Pleuronectidæ) of America and Europe. Report, 1886 (1889), p. 225-342, IX pl. *Doc. 126 issued 1889.* F15-47
- Kendall, William Converse: Notes on a new species of flatfish from off the coast of New England. Bulletin, 1910 (1912), vol. XXX, p. 389-394, pl. LVII. *Doc. 764 issued Aug. 8, 1912.* F12-275
- Krause, K. E. H.: A hybrid plaice, *Platessa vulgaris* with *Rhombus maximus*. Bulletin, 1882 (1883), vol. II, p. 341-342. F12-368
- Kuntz, Albert: The histological basis of adaptive shades and colors in the flounder, *Paralichthys albiguttus*. (Bibliography, p. 26-28.) Bulletin, 1915-1916 (1918), vol. XXXVI, 29 p., illus., 2 col. pl. *Doc. 842 issued May 28, 1917.* F17-185
- Mast, Samuel Ottmar: Changes in shade, color, and pattern in fishes, and their bearing on the problem of adaptation and behavior, with special reference to the flounders *Paralichthys* and *Ancylopsetta*. (Bibliography: p. 230-232.) Bulletin, 1914 (1916), vol. XXXIV, p. 173-238, illus., pl. XIX-XXXVII (part col.). *Doc. 821 issued Apr. 10, 1916.* F16-80
- Mather, Fred: The experiment of transporting turbot and soles from England to America. Report, 1877 (1879), p. 867-873. F16-123
- Scudder, Newton Pratt: The halibut fishery—Davis' Strait. Report, 1880 (1883), p. 189-228. *Doc. 43 issued Apr. 26, 1882.* F11-217
- Thorsteinson, Arni Bjarnason: American halibut fisheries near Iceland. Bulletin, 1885 (1885), vol. V, p. 429-433. F18-496

POECILIIDÆ.

- Goode, George Brown: [The mummichog family—Poeciliidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 466.
- Hildebrand, Samuel Frederick: Notes on the life history of the minnows *Gambusia affinis* and *Cyprinodon variegatus*. (Bibliography: p. 15.) Appendix VI, Report, 1917 (1919), 15 p. *Doc. 857 issued Aug. 13, 1917.* F17-250
- Kuntz, Albert: Notes on the habits, morphology of the reproductive organs, and embryology of the viviparous fish *Gambusia affinis*. Bulletin, 1913 (1914), vol. XXXIII, p. 177-190, pl. XVI-XIX. *Doc. 806 issued Oct. 28, 1914.* F14-106

POLYODONTIDÆ.

- Goode, George Brown: [The paddle fishes—Polyodontidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 660.

POLYNEMIDÆ.

- Goode, George Brown: [The thread fish family—Polynemidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 279.

POMACENTRIDÆ.

- Goode, George Brown: [The demoiselle and the cichlid families.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 275-276.

POMATOMIDÆ.

- Baird, Spencer Fullerton: Natural history of some of the more important food fishes of the South Shore of New England (bluefish). Report, 1871-72 (1873), p. 235-252. F15-100
- Goode, George Brown: [The bluefish family—Pomatomidæ.] *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 433-444.

Pierce, H. D.: The spawning of bluefish—An opinion of the cause of mortality of fish in the Gulf of Mexico. Bulletin, 1883 (1883), vol. III, p. 332. F18-143

PRISTIPOMATIDÆ.

Goode, George Brown: [The snapper family—Pristipomatidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 395.

RACHYCENTRIDÆ.

Goode, George Brown: [The cobia or crab-eater—*Elacate Canada*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 444.

SALMONIDÆ.

Abernethy, A. S.: Salmon in the Clackamas River. Bulletin, 1886 (1887), vol. VI, p. 332. F18-603

Adams, Andrew Leith: The lake trouts. Report, 1872 and 1873 (1874), p. 357-362. F15-104

Anderson, John: Notes on the biology of the salmon and grilse. Bulletin, 1883 (1883), vol. III, p. 429-430. F18-162

— [Salmon and trout in Scotland.] Bulletin, 1885 (1885), vol. V, p. 468.

Atkins, Charles G.: On the salmon of eastern North America, and its artificial culture. Report, 1872 and 1873 (1874), p. 226-337. F15-99

— Memoranda relative to inclosures for the confinement of salmon, drawn from experience at Bucksport, Penobscot River, Maine. Bulletin, 1884 (1884), vol. IV, p. 170-174. F13-92

— Memoranda on landlocked salmon. Bulletin, 1884 (1884), vol. IV, p. 341-344. F13-112

— Ten questions concerning the habits and breeding of landlocked salmon, with replies. Bulletin, 1884 (1884), vol. IV, p. 383-384. F18-341

— The Atlantic and landlocked salmons. Report, 1897 (1898), p. 27-70.

Atwater, Wilbur Olin: Report of analysis of a sample of fish guano made from salmon offal, by Mr. Joseph Spratt, of Victoria, British Columbia. Bulletin, 1884 (1884), vol. IV, p. 238. F13-103

Barber, C. H.: Success in raising landlocked salmon. Bulletin, 1884 (1884), vol. IV, p. 87. F18-233

Barfurth, D.: The food and manner of living of the salmon, the trout, and the shad. (Prefatory note by Theo. Gill: p. 735-736.) Report, 1873-74 and 1874-75 (1876), p. 735-759.

Barin, L. T.: Salmon in the Clackamas River. Bulletin, 1886 (1887), vol. VI, p. 111-112. F18-552

Bean, Tarleton Hoffman: Notes on a shipment, by the United States Fish commission of California salmon (*Oncorhynchus chowicha*) to Tanners Creek, Indiana, in 1876. Bulletin, 1881 (1882), vol. I, p. 204-205. F18-38

— Account of a shipment, by the United States Fish commission, of California salmon-fry (*Oncorhynchus chowicha*) to southern Louisiana, with note on some collections made at Tickfaw. Bulletin, 1881 (1882), vol. I, p. 205-206. F18-39

— Brook trout from Monadnock Lake and Cristine Lake, New Hampshire. Bulletin, 1884 (1884), vol. IV, p. 293-294. F13-107

— [Natural history of the salmon.] Bulletin, 1889 (1891), vol. IX, p. 189-200.

— [Life history of the salmon.] Bulletin, 1892 (1894), vol. XII, p. 21-38, pl. II-IX.

Behr, Friedrich von: Five American Salmonidae in Germany. Bulletin, 1882 (1883), vol. II, p. 237-246. F12-360

Benecke, Berthold Adolf: Observations on salmon in German rivers. Bulletin, 1886 (1887), vol. VI, p. 119-122 incl. tab. F18-556

Bottemanne, C. J.: California salmon in the Netherlands. Report, 1879 (1882), p. 709-713. F17-20

— Penning of salmon in order to secure their eggs. Bulletin, 1884 (1884), vol. IV, p. 169. F18-265

Bower, Seymour: Instructions for taking whitefish eggs. Bulletin, 1884 (1884), vol. IV, p. 113-114. F18-239

Brice, J. J.: Establishment of stations for the propagation of salmon on the Pacific coast. Report, 1893 (1895), p. 387-392. 12-17363

- Buck, H. H.:** Report upon hatching one million whitefish eggs from the Great Lakes, at Orland, Me., and upon planting the young in Eagle Lake, Mount Desert. Bulletin, 1883 (1883), vol. III, p. 454-455. F18-182
- Chamberlain, F. M.:** Some observations on salmon and trout in Alaska. Report and special papers, 1906 (1908), 112 p., pl., fold. map., diagrs. *Doc. 627 issued Dec. 18, 1907.* 7-35437
- Cheney, A. Nelson:** The Hudson River as a salmon stream. Bulletin, 1897 (1898), vol. XVII, p. 247-251. *Doc. 376 issued Aug. 8, 1898.* F12-110
- Salmon in the Hudson River. Bulletin, 1886 (1887), vol. VI, p. 351-352. F18-610
- Clark, Frank N.:** On the rearing of the whitefish in spring-water and its relation to their subsequent distribution. Bulletin, 1881 (1882), vol. I, p. 301-306. F20-116
- Report of operations connected with the propagation of whitefish (*Coregonus albus*) at the Northville station, Northville, Michigan, for season of 1880-81. Report, 1880 (1883), p. 553-596. F16-276
- Spawning of California mountain trout, reared in confinement, from eggs brought from McCloud River. Bulletin, 1883 (1883), vol. III, p. 256. F18-130
- On the propriety of depositing whitefish minnows off the harbor of Cleveland, Ohio. Bulletin, 1883 (1883), vol. III, p. 349-352. F12-398
- Results of planting young whitefish in Lake Erie. What the fishermen think of whitefish propagation. Bulletin, 1885 (1885), vol. V, p. 113-120. F18-382
- Natural as compared with artificial hatching of whitefish. Bulletin, 1885 (1885), vol. V, p. 321-323. F18-465
- History and methods of whitefish culture. Bulletin, 1893 (1894), vol. XIII, p. 213-220. *Doc. 257 issued 1894.* F12-183
- Clarke, H. R.:** Propagation of trout by the Southside club. Bulletin, 1885 (1885), vol. V, p. 436. F18-500
- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393
- Pacific salmon fisheries. Appendix III, Report, 1916 (1917), 255 p. incl. tables, XXIX pl. *Doc. 839 issued June 9, 1917.* F17-238
- Collins, John D.:** Propagation of salmon in Salmon River, Oswego County, New York. Bulletin, 1885 (1885), vol. V, p. 287-289. F18-442
- Correspondence** connected with the transmission of eggs of the Quinнат salmon and whitefish to Australia and New Zealand, 1877, 1878, and prior years. Report, 1878 (1880), p. 825-905. F16-185
- Correspondence** connected with the transmission of eggs of the Quinнат salmon and other Salmonidæ to European countries in 1878 and prior years. Report, 1878 (1880), p. 907-924. F16-186
- Dannevig, Gunder Mathisen:** Salmonidæ in Australia. (From his report on the London fisheries exhibition.) Bulletin, 1885 (1885), vol. V, p. 440-442. F18-502
- Day, Francis:** On the rearing, growth, and breeding of salmon in fresh water in Great Britain. Bulletin, 1885 (1885), vol. V, p. 307-308. F18-452
- Experiments with salmon in Scotland. Bulletin, 1886 (1887), vol. VI, p. 56. F18-532
- Dowell, Benjamin Franklin:** Efforts in trout culture. Bulletin, 1884 (1884), vol. IV, p. 64. F18-224
- Cultivation trout in Oregon. Bulletin, 1884 (1884), vol. IV, p. 217. F18-286
- Downing, Seth W.:** A plan for promoting the whitefish production of the Great Lakes. Bulletin, 1908 (1910), vol. XXVIII, p. 627-633. *Doc. 672 issued Apr. 14, 1910.* 10-35439
- Duncan, J. Barker:** Salmon and trout hatcheries in Scotland. Bulletin, 1885 (1885), vol. V, p. 451-456. F18-508
- Dunn, Horace D.:** Do the spawning salmon ascending the Sacramento River all die without returning to sea? With notes by Livingston Stone. Report, 1878 (1880), p. 815-818. F16-183
- Evermann, Barton Warren:** A preliminary report upon salmon investigations in Idaho in 1894. Bulletin, 1895 (1896), vol. XV, p. 253-284. *Doc. 301 issued Feb. 20, 1896.* F12-245
- A report upon salmon investigations in the headwaters of the Columbia River, in the State of Idaho, in 1895: together with notes upon the fishes observed in that State in 1894 and 1896. Bulletin, 1896 (1897), vol. XVI, p. 143-202, pl. 67-72 (partly fold.). *Doc. 318 issued Nov. 17, 1896.* F11-343

- Evermann, Barton Warren: The golden trout of the southern high Sierras. (Bibliography: p. 50-51.) [Contains also: "Temperature conditions in the Kern River region, by O. P. Jenkins": p. 39. "The food of the trout of the Kern River region, by Chancey Juday": p. 43.] Bulletin, 1905 (1906), vol. XXV, p. 3-51 XVII pl. (partly col.), fold. map. *Doc. 595 issued May 19, 1906.* F11-66
- Evermann, Barton Warren, and Edmond Lee Goldsborough: The fishes of Alaska. (Bibliography: p. 358-360.) Bulletin, 1906 (1907), vol. XXVI, p. 219-360, illus., pls. (partly col.). *Doc. 624 issued Dec. 6, 1907.* 7-35452
- Evermann, Barton Warren, and Seth Eugene Meek: A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus., 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241
- Evermann, Barton Warren, and Hugh McCormick Smith: The whitefishes of North America. Report, 1894 (1896), p. 283-324, illus., pl. 11-28. *Doc. 323 issued Nov. 27, 1896.* F11-189
- Farr, S. C.: Description of a California salmon (*Oncorhynchus* sp.) found in one of the rivers of New Zealand and identified by Dr. T. N. Bean. Bulletin, 1883 (1883), vol. III, p. 427. F18-161
- Fiedler, Judge: The migration of salmon (*Salmo salar* L.) in the Baltic. Bulletin, 1885 (1885), vol. V, p. 185-188. F18-401
- Finley, Charles I.: Shad in Oregon waters—a new salmon hatchery. Bulletin, 1884 (1884), vol. IV, p. 88. F18-236
- Further report of R. D. Hume's salmon hatchery, Oregon. Bulletin, 1884 (1884), vol. IV, p. 174. F18-266
- Fisher, William J.: Statement of the catch of the several companies engaged in the salmon fisheries in Kadiak district, Alaska Territory, during the year 1883. Bulletin, 1884 (1884), vol. IV, p. 134. F18-247
- Forbes, Stephen Alfred: The food of young whitefish—*Coregonus clupeiformis*. Bulletin, 1881 (1882), vol. I, p. 19-20. F18-8
- The first food of the common whitefish (*Coregonus clupeiformis* Mitch.). Report, 1881 (1884), p. 771-782. F16-339
- Frey, E.: Disposition of whitefish eggs sent to Switzerland. Bulletin, 1885 (1885), vol. V, p. 358. F18-474
- Gaylord, Harvey Russell, and Millard Caleb Marsh: Carcinoma of the thyroid in the salmonoid fishes. (Bibliography: p. 519-524.) Bulletin, 1912 (1913), vol. XXXII, p. 363-524, illus., pl. LVI-CX (part col.). *Doc. 790 issued Apr. 22, 1914.* F14-37
- Geare, Randolph I.: [The Lake whitefish—*Coregonus clupeiformis*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 507-540.
- Gilbert, Charles Henry: Age at maturity of the Pacific coast salmon of the genus *Oncorhynchus*. Bulletin, 1912 (1913), vol. XXXII, p. 1-22, pl. I-XVII. *Doc. 767 issued Mar. 20, 1913.* F13-70
- Gilbert, W. L.: Growth of the sabling (*Salmo salvelinus*) in the Old Colony trout ponds at Plymouth, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 427. F18-57
- Glen Falls Republican: [Salmon, lake trout, and brown trout at Glen Falls.] Bulletin, 1886 (1887), vol. VI, p. 133.
- Goll, Hermann: The American brook trout recommended for Swiss waters. Bulletin, 1886 (1887), vol. VI, p. 206-208. F18-576
- Goode, George Brown: [The salmon—*Salmo salar*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 468-474.
- [The salmons of the Pacific.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 474-479.
- [The namaycush or lake trout—*Salvelinus namaycush*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. 485-497.
- [The speckled trout—*Salvelinus fontinalis*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 497-500.
- [The saibling, or Bavarian char—*Salvelinus alpinus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 500-504.
- Green, Loren W.: Condition of the United States trout ponds. Bulletin, 1885 (1885), vol. V, p. 309. F18-454
- On a disease affecting the rainbow trout at McCloud River station. Bulletin, 1885 (1885), vol. V, p. 472. F18-513
- [Salmon and trout at the McCloud River station.] Bulletin, 1886 (1887), vol. VI, p. 314.
- Salmon in the McCloud River during the season of 1886. Bulletin, 1886 (1887), vol. VI, p. 334-336. F18-605

- Green, Seth:** Rearing of California mountain trout (*Salmo irideus*). Bulletin, 1881 (1882), vol. I, p. 23. F18-11
- Salmon caught in Genesee River, New York. Bulletin, 1881 (1882), vol. I, p. 23-24. F18-12
- The introduction of land-locked salmon into Woodhull Lake, New York, and the subsequent capture of some of them. Bulletin, 1881 (1882), vol. I, p. 421. F18-55
- Greene, Charles Wilson:** Physiological studies of the Chinook salmon. Bulletin, 1904 (1905), vol. XXIV, p. 429-456 incl. tables, illus. Doc. 584 issued Nov. 2, 1902. F12-13
- The migration of salmon in the Columbia River. Bulletin, 1909 (1911), vol. XXIX, p. 129-148, pl. XXVI-XXVII. Doc. 743 issued Mar. 15, 1911. F11-102
- Anatomy and histology of the alimentary tract of the king salmon. Bulletin, 1912 (1913), vol. XXXII, p. 73-100, pl. XXV-XXVIII. Doc. 777 issued July 25, 1913. F15-20
- The storage of fat in the muscular tissue of the king salmon and its resorption during the fast of the spawning migration. Bulletin, 1913 (1914), vol. XXXIII, p. 69-138, pl. III-XI. Doc. 799 issued Sept. 30, 1914. F14-100
- The fat-absorbing function of the alimentary tract of the king salmon. Bulletin, 1913 (1914), vol. XXXIII, p. 149-175, pl. XII-XV. Doc. 802 issued Oct. 28, 1914. F14-104
- Greene, Charles Wilson, and Carl Hartly Greene:** The skeletal musculature of the king salmon. Bulletin, 1913 (1914), vol. XXXIII, p. 21-59, illus., II pl. Doc. 796 issued Aug. 8, 1914. F14-113
- Greenfield, Alfred:** Report upon the receipt and hatching of American whitefish ova and planting of the fry in Australia. Bulletin, 1884 (1884), vol. IV, p. 190-191. F18-279
- Haack, Hermann:** Raising salmonoids in inclosed waters. Report, 1879 (1882), p. 675-685. F17-18
- Treatment of young salmonoids and coregoni from the time they leave the egg till they are fully developed and can be placed in open waters. Report, 1879 (1882), p. 687-693. F17-19
- Habersham, William Ney A.:** Note on the use of the male salmon hook and the run of 1883. Bulletin, 1884 (1884), vol. IV, p. 52. F18-215
- Hamlin, Augustus Choate:** On the salmon of Maine. Report, 1872-73 (1874), p. 338-356. F15-103
- Hessel, Rudolph:** The salmon of the Danube, or the hucho (*Salmo hucho*), and its introduction into American waters. Report, 1872 and 1873 (1874), p. 161-165. F15-94
- Hodge, E. B.:** Culture of the landlocked and Penobscot salmon in New Hampshire. Bulletin, 1885 (1885), vol. V, p. 423-424. F18-490
- Holberton, Wakeman:** The successful stocking of streams with trout. Bulletin, 1883 (1883), vol. III, p. 192. F18-123
- Holden, E. C.:** The Columbia River salmon—a hatchery needed. Bulletin, 1884 (1884), vol. IV, p. 304. F18-321
- Huske, C. J.:** Report on California trout distribution in South Carolina in 1889. Bulletin, 1884 (1884), vol. IV, p. 164-165. F18-259a
- Jerrell, H. P.:** Concerning the salmon fisheries of Bretagne, France, and the need of fish-ways and restrictive legislation. Bulletin, 1884 (1884), vol. IV, p. 185-186. F18-276
- Jordan, David Starr:** [The Dolly Varden trout—*Salvelinus malma*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 504-505.
- [The lesser whitefishes.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 541-543.
- The mountain or salmon trout of Oregon. Bulletin, 1885 (1885), vol. V, p. 310. F18-456
- Jordan, David Starr, and Barton Warren Evermann:** A review of the salmonoid fishes of the Great Lakes, with notes on the whitefishes of other regions. Bulletin, 1909 (1911), vol. XXIX, p. 1-41, illus., col. pl. I-VII. Doc. 737 issued Feb. 7, 1911. F11-39
- Juday, Chancey:** Notes on Lake Tahoe, its trout and trout-fishing. (Literature cited: p. 146.) Bulletin, 1906 (1907), vol. XVI, p. 133-146. Doc. 615 issued May 11, 1907. F11-63
- A study of Twin Lakes, Colorado, with especial consideration of the food of the trouts. (Bibliography: p. 175-178.) Bulletin, 1906 (1907), vol. XXVI, p. 147-178, pl. III. Doc. 616 issued May 24, 1907. F11-64

- Kendall, William Converse: [Salmon of Sebago Lake.] Report, 1899 (1900), p. CXXI-CXXIII.
- [The whitefishes of Maine.] Bulletin, 1902 (1904), vol. XXII, p. 363-368, illus.
- Fishes and fishing in Sunapee Lake. Report and special papers, 1912 (1914), 96 p., 9 pl., illus., IX pl. *Doc. 783 issued Jan. 28, 1914.* F14-1
- The Rangeley Lakes, Maine: With special reference to the habits of the fishes, fish-culture, and angling. Bulletin, 1915-1916 (1918), vol. XXXV, p. 487-594, illus., pl. XI-XLVI (part. col.). *Doc. 861 issued May 25, 1918.* F18-682
- Kendall, William Converse, and E. L. Goldsborough: The fishes of Connecticut Lakes and neighboring waters, with notes on the plankton environment. Report and special papers, 1907 (1909), 77 p., illus., X pl., 2 charts. *Doc. 633 issued July 6, 1908.* 8-35558
- Koss, R. A.: Trout and trout culture. Bulletin, 1883 (1883), vol. III, p. 473-476. F12-389
- Kunzel: On the conditions under which trout exist in the German waters. Bulletin, 1884 (1884), vol. IV, p. 393-395. F18-348
- Lanman, Charles: The Salmonidæ of eastern Maine, New Brunswick, and Nova Scotia. Report, 1872-73 (1874), p. 219-225. F15-98
- Loomis, Watts T.: A landlocked salmon caught in the Erie canal. Bulletin, 1884 (1884), vol. IV, p. 288. F18-312
- McDonald, Marshall: California trout planted in Raccoke River in July, 1883, retaken in June, 1884. Bulletin, 1884 (1884), vol. IV, p. 286. F18-311
- Report on the salmon fisheries of Alaska. (Life history of the salmon by T. H. Bean: p. 21.) (Bibliography of the Salmonidæ of Alaska and adjacent regions, by T. H. Bean: p. 39.) Bulletin, 1892 (1893), vol. XII, 49 p. IX pl. *Doc. 200 issued July 27, 1892.* F12-119
- [Species of Alaska salmon of economic value.] Bulletin, 1892 (1894), vol. XII, p. 12-13.
- The salmon fisheries of the Columbia River basin . . . together with a report upon physical and natural-history investigations in the region by C. H. Gilbert and W. B. Evermann. Bulletin, 1894 (1895), vol. XIV, p. 153-207, pl. 13-25 (partly fold.). *Doc. 290 issued Aug. 27, 1894.* F12-174
- Maitland, Sir James Ramsey Gibson: Exchange of land-locked salmon eggs from Maine for Loch Leven trout ova from Scotland. Bulletin, 1884 (1884), vol. IV, p. 114. F18-240
- Malmgren, Anders John: The migrations of the salmon (*Salmo salar* L.) in the Baltic. Bulletin, 1884 (1884), vol. IV, p. 322-328, illus. F13-110
- Maslieurat-Lagemard: Acclimatization of *Salmo quinnat* in France. Bulletin, 1884 (1884), vol. IV, p. 144. F18-255
- Mason, Frank Holcomb: Proposed exportation of white fish eggs to Switzerland. Bulletin, 1883 (1883), vol. III, p. 272. F18-131
- Mather, Fred: Brown trout in America. Bulletin, 1887 (1889), vol. VII, p. 21-22. F18-640
- Report upon the result of salmon planting in the Hudson River. Bulletin, 1887 (1889), vol. VII, p. 409-424. F18-678
- Maynard, H. J.: Rainbow trout in southwestern Missouri. Bulletin, 1887 (1889), vol. VII, p. 55-56. F18-647
- Metcalf, Martin: Success in propagating California mountain trout from eggs brought to Michigan by the United States Fish commission. Bulletin, 1883 (1883), vol. III, p. 471-472. F18-197
- Miescher-Rusch, F.: Contribution to the biology of the Rhine salmon. (Reprint from the Swiss literary contributions to the International fishery exposition at Berlin, 1880.) Report, 1880 (1883), p. 427-474, tables. F16-292
- Milner, James W.: Notes on the grayling of North America, and descriptions of new species of Coregonus and Argyrosomus. Report, 1872-73 (1874), 20 p. F11-206
- Moores, I. R.: [The rocky mountain whitefish (*Coregonus williamsoni*.)] Bulletin, 1884 (1884), vol. IV, p. 315.
- Morgan, George: Capture of land-locked salmon at Oswego, New York. Bulletin, 1882 (1883), vol. II, p. 15. F18-56
- Moser, Jefferson F.: The salmon fisheries of Alaska. Report of the operations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1898. Bulletin, 1898 (1899), vol. XVIII, 178 p., VI pl., illus., fold. charts, 63 pl. *Doc. 408 issued July 27, 1899.* F12-94
- The salmon and salmon fisheries of Alaska. Report of the Alaska salmon investigations of the U. S. Fish commission steamer *Albatross* in 1900 and 1901. Bulletin, 1901 (1902), vol. XXI, p. 173-398, 399*-401*, illus., fold. tables and charts, XLIV pl. *Doc. 510 issued Oct. 31, 1902.* F12-278

- Murray, C. H.:** Young trout destroyed by mosquitoes. Bulletin, 1885 (1885), vol. V, p. 243-244. F18-417
- O'Malley, Henry:** Artificial propagation of the salmon of the Pacific coast. Revised and enlarged. Appendix II, Report, 1919 (1921), 32 p., illus., IX pl. *Doc. 879 issued Jan. 8, 1920.* F20-153
- O'Malley, Henry, and Willis H. Rich:** Migration of adult sockeye salmon in Puget Sound and Fraser River. Appendix VIII, Report, 1918 (1920), 38 p. incl. tables, pl., fold. chart. *Doc. 873 issued Dec. 3, 1919.* F19-43
- Page, William F.:** Feeding and rearing fishes, particularly trout, under domestication. Bulletin, 1894 (1895), vol. XIV, p. 289-314. *Doc. 294 issued May 22, 1895.* 12-17377
- Shrinkage of whitefish eggs during transportation on trays. Bulletin 1886 (1887), vol. VI, p. 360. F18-612
- Paige, Charles L.:** A method of cultivating rainbow trout and other salmonoids. Bulletin 1908 (1910), vol. XXVIII, p. 781-787, diags. *Doc. 677 issued April, 1910.* 10-35421
- The comparative value of foods for rainbow trout and other salmonoids. Bulletin, 1908 (1910), vol. XXVIII, p. 795-798. *Doc. 679 issued April, 1910.* 10-35419
- Pratt, K. B.:** Report of salmon-hatching operations on Rogue River, Oregon, 1877-78. Report, 1878 (1880), p. 773-774. F16-180
- Raveret-Wattel and Bartet:** Reproduction of California salmon in the aquarium of Trocadero. Bulletin, 1883 (1883), vol. III, p. 207-208. F12-382
- Note on the culture of American salmon in France. Bulletin, 1885 (1885), vol. V, p. 260. F18-428
- Redmond, Roland:** On rainbow trout reared from eggs brought from California. Bulletin, 1883 (1883), vol. III, p. 230. F18-127
- Rich, Willis H.:** Early history and seaward migration of chinook salmon in the Columbia and Sacramento Rivers. (Bibliography: p. 71-72.) Bulletin, 1919-20 (192-), vol. XXXVII, 73 p., illus., IV pl. *Doc. 887 issued July 26, 1920.* F20-155
- Robinson, W. Russel:** A California salmon taken in James River. Bulletin, 1884 (1884), vol. IV, p. 290. F18-314
- Rosenberg, Albert:** Experience in abating disease among brook trout. Bulletin, 1908 (1910), vol. XXVIII, p. 914-945. *Doc. 694 issued April, 1910.* 10-35415
- Rutter, Cloudsley:** Natural history of the quinnat salmon. A report on investigations in the Sacramento River, 1896-1901. Bulletin, 1902 (1904), vol. XXII, p. 65-141 incl. tables, illus., pl. 10-18 (partly fold.). *Doc. 515 issued Mar. 30, 1903.* F12-59
- Ryder, John Adam:** On the nuclear cleavage-figures developed during the segmentation of the germinal disk of the eggs of the salmon. (List of papers: p. 335.) Bulletin, 1881 (1882), vol. I, p. 335-339, pl. XVIII. F12-324
- Seagle, George A.:** The artificial propagation of the rainbow trout. Bulletin, 1896 (1897), vol. XVI, p. 239-256, illus., pl. 88-94. *Doc. 319 issued Nov. 17, 1896.* F12-111
- Sekizawa, Akeio:** Memorandum on fish culture in Japan, with notice of experiments in breeding the California trout. Report, 1879 (1882), p. 645-648. F17-12
- Simms, George E.:** An improvement in hatching and rearing boxes; with notes on the continuous feeding of the fry of Salmonidae. Bulletin, 1908 (1910), vol. XXVIII, p. 1015-1023. *Doc. 704 issued Apr., 1910.* 10-35441
- Smith, E. L.:** Hood River, Oregon, as a place for salmon breeding. Bulletin, 1886 (1887), vol. VI, p. 87-88. F18-543
- Smith, Hugh McCormick:** Notes on two hitherto unrecognized species of American whitefishes. Bulletin, 1894 (1895), vol. XIV, p. 1-13. *Doc. 232 issued Mar. 19, 1894.* F12-177
- Notes on the capture of Atlantic salmon at sea and in the coast waters of the eastern States. Bulletin, 1894 (1895), vol. XIV, p. 95-99, pl. 3-4. *Doc. 281 issued May 4, 1894.* F12-168
- The salmon fishery of Penobscot Bay and River in 1895 and 1896. Bulletin, 1897 (1898), vol. XVII, p. 113-124, illus., pl. 5. *Doc. 357 issued 1898.* F12-407
- Smith, Silas B.:** Efforts to raise trout. Bulletin, 1885 (1885), vol. V, p. 435-436. F18-499
- Snyder, John Otterbein:** A new species of trout (*Salmo regalis*) from Lake Tahoe. Bulletin, 1912 (1914), vol. XXXII, p. 23-28. *Doc. 768 issued Dec. 31, 1912.* F13-12
- Three new whitefishes from Bear Lake, Idaho and Utah. Bulletin, 1917-18 (1921), vol. XXXVI, 7 p., illus. *Doc. 864 issued May 7, 1919.* F19-35
- Some** results of the artificial propagation of Maine and California salmon in New England and Canada, recorded in the years 1879 and 1880. Bulletin, 1881 (1882), vol. I, p. 270-277. F20-142

- Sterling, E.:** On the impropriety of depositing whitefish minnows off the harbor of Cleveland, Ohio. Fishing for saugers. Bulletin, 1883 (1883), vol. III, p. 302-303. F18-141
- Stirling, A. B.:** Notes on the fungus diseases affecting salmon. Report, 1878 (1880), p. 525-529. F16-167
- Stone, Livingston:** Notes on the salmon of the Miramichi River. Report, 1871 and 1872 (1873), p. 216-218. F15-97
- The salmon fisheries of the Columbia River. (Varieties of salmon: p. 815-820.) Report, 1875-76 (1878), p. 801-823. F6-70
- Replies to questions of Herr von Behr concerning *Salvelinus fontinalis* and *Salmo irideus*. Bulletin, 1882 (1883), vol. II, p. 9-12. F18-61
- [The quinnat, or California salmon—*Oncorhynchus chowicha*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 479-485.
- Explorations on the Columbia River from the head of Clarks Fork to the Pacific Ocean made in the summer of 1883, with reference to the selection of a suitable place for establishing a salmon-breeding station. Report, 1883 (1885), p. 237-258. F11-241
- The artificial propagation of salmon on the Pacific coast of the United States, with notes on the natural history of the quinnat salmon. Bulletin, 1896 (1897), vol. XVI, p. 203-235, pl. 73-87. Doc. 320 issued Nov. 7, 1896. F12-113
- Stranahan, J. J.:** The methods, limitations, and results of whitefish culture in Lake Erie. Bulletin, 1897 (1898), vol. XVII, p. 315-319. Doc. 386 issued 1898. F12-110
- Suckley, George:** On the North American species of salmon and trout. Report, 1872 and 1873 (1874), p. 91-160. F15-93
- Trybom, Filip, i. e. Arvid Filip:** Salmon fisheries of Halland, Sweden, especially in the River Viskan. Bulletin, 1886 (1887), vol. VI, p. 104-105. F18-549
- U. S. Bureau of Fisheries:** Miscellaneous notes and correspondence relative to the whitefish. A. The whitefish of the Great Lakes [letters from George Barnston, John W. Kerr, Peter Kiel]. B. The whitefish of eastern Maine and New Brunswick, by Charles Lanman. C. New species of *Argyrosomus* and *Coregonus*, by James W. Milner. Report, 1872 and 1873 (1874), p. 79-89. F15-92
- Miscellaneous notes and correspondence relative to salmon and trout. A. On the salmon in Maine, by Thomas Lincoln. B. On the stomachs of salmon and their contents, by James K. Thatcher and Sidney I. Smith. C. On the silver-trout of Monadnock Lake, New Hampshire, by Thos. E. Hatch. D. On the edible qualities of the Sacramento salmon, by S. R. Throckmorton. E. On the salmon fisheries of the Sacramento River, by Livingston Stone. Report, 1872 and 1873 (1874), p. 369-379. F15-106
- Additional reports relative to the hatching and planting of the Penobscot salmon. By Wm. W. Fletcher, J. H. Slack, Thaddeus Norris, E. Sterling, and H. F. Dousman. Report, 1872 and 1873 (1874), p. 380-384. F15-107
- Hatching and distribution of California salmon. A. Report on California salmon spawn hatched and distributed, by J. H. Slack. B. Hatching and distribution of California salmon in tributaries of Great Salt Lake, by A. P. Rockwood. Report, 1873-74 and 1874-75 (1876), p. [431]-435. F16-22
- Correspondence relating to the San Joaquin River and its fishes. [From B. B. Redding and Walter Nethercleff.] Report, 1873-74 and 1874-75 (1876), p. [479]-483. F16-24
- Artificial propagation of the lake trout, grayling, and whitefish . . . (Extracted from the rev. ed. of the Manual of Fish culture.) p. 91-120, pls. (1 fold.). Doc. 520 issued Apr. 6, 1903. 8-35705
- Canned salmon: cheaper than meats, and why. Including fifty tested recipes. 11 p. Economic Circular 11 issued Mar. 7, 1914. F14-35
- Valery-Mayet:** Acclimatization of *Salmo quinnat* in France. Bulletin, 1884 (1884), vol. IV, p. 138. F18-247b
- Hatching salmon eggs at Montpellier, France, and trouble with fungus. Bulletin, 1885 (1885), vol. V, p. 272. F18-434
- Vincent, Eugene:** Causes of disease in young salmonoids. Bulletin, 1908 (1910), vol. XXVIII, p. 907-916. Doc. 689 issued April, 1910. 10-35564
- Walker, C. H.:** Location of a salmon hatchery in Oregon. Bulletin, 1885 (1885), vol. V, p. 309-310. F18-455
- Ward, F. M.:** Young salmon in northern New Jersey. Bulletin, 1886 (1887), vol. VI, p. 345. F18-608
- Ward, Henry Baldwin:** Internal parasites of the Sebago salmon. (Bibliography: p. 1192-1194.) Bulletin, 1908 (1910), vol. XXVIII, p. 1151-1194, pl. CXXI. Doc. 713 issued April, 1910. 10-35558

- Waterbury, E. B.:** Obstructions to salmon in Pend d'Oreille River, Montana, requiring a fish-way or removal of falls. Bulletin, 1883 (1883), vol. III, p. 421-423. F18-158
- Watson, W. C.:** The salmon of Lake Champlain and its tributaries. Report, 1873-74 and 1874-75 (1876), p. 531-540. F16-26
- Whitcombe, W. P.:** Shipment of whitefish eggs to the Ballarat Fish Acclimatization Society. Bulletin, 1885 (1885), vol. V, p. 329-330. F18-468
- Whitefish,** lake trout, and brook trout in France. Bulletin, 1884 (1884), vol. IV, p. 112. F18-283
- Wilmot, Samuel:** Introduction of California salmon into Ontario, with remarks on the disappearance of Maine salmon from that province. Bulletin, 1881 (1882), vol. I, p. 347-349. F20-146
- Remarks on the scarcity of male grilse salmon in the rivers of Ontario, Canada. Bulletin, 1881 (1882), vol. I, p. 379-381. F20-148
- Wilson, Charles A.:** Raising brook trout in mineral water. Bulletin, 1882 (1883), vol. II, p. 392. F18-112
- Yarrow, Harry Crécy:** On the speckled trout of Utah Lake (*Salmo virginalis* Girard). Report, 1872 and 1873 (1874), p. 363-368. F15-105

SCARIDÆ.

- Goode, George Brown:** [The parrot fishes and some of their allies.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 274-275.
- Jenkins, Oliver Peebles:** Descriptions of new species of fishes from the Hawaiian Islands, belonging to the families Labridæ and Scaridæ. Bulletin, 1899 (1901), vol. XIX, p. 45-65, illus. Doc. 433 issued Aug. 30, 1900. F12-45

SCIÆNIDÆ.

- Crozier, William J., and Selig Hecht:** Correlations of weight, length, and other body measurements in the weakfish, *Cynoscion regalis*. Bulletin, 1913 (1915), vol. XXXIII, p. 141-147, illus. Doc. 800 issued Sept. 17, 1914. F14-101
- Eigenmann, Carl H.:** Investigation into the history of the young squeteague. Bulletin, 1901 (1902), vol. XXI, p. 45-51, illus. Doc. 477 issued Oct. 12, 1901. F12-264
- Goode, George Brown:** [The drum family.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 362.
- [The squeteague—*Cynoscion regale*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 362-365.
- [The spotted squeteague—*Cynoscion maculatum*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 365-367.
- [The drum—*Pogonias chromis*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 367-369.
- [The spot, or Lafayette—*Liostomus xanthurus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 370-371.
- [The red fish, or bass of the South—*Sciaena ocellata*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 371-375.
- [The yellow tail—*Bairdiella chrysura*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 375.
- [The kingfish—*Menticirrus nebulosus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 375-376.
- [The whittings—*Menticirrus alburnus* and *M. littoralis*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 376-378.
- [The croker—*Micropogon undulatus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 378.
- Hughes, Smith E.:** [Live ponds for weakfish in New Jersey.] Bulletin, 1881 (1882), vol. I, p. 349-351.
- Jordan, David Starr:** [The fresh-water drum—*Haploidonotus grunniens*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 370.
- [The corvinas and roncadors of the Pacific coast.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 378-380.
- Jordan, David Starr, and Carl H. Eigenmann:** A review of the Sciaenidæ of America and Europe. Report, 1886 (1889), p. 343-451. Doc. 127 issued 1889. F11-254
- Kuntz, Albert:** The embryology and larval development of *Bairdiella chrysura* and *Anchovia mitchilli*. Bulletin, 1913 (1914), vol. XXXIII, 19 p., illus. Doc. 795 issued May 29, 1914. F14-38

- Parker, George Howard:** Structure and functions of the ear of the squeteague. (Bibliography: p. 1222-1224.) Bulletin, 1908 (1910), vol. XXVIII, p. 1211-1224, pl. CXXII. *Doc. 715 issued May 5, 1910.* 10-35606
- Rathbun, Richard:** [Eggs of spotted weakfish successfully hatched on *Fish Hawk*.] Report, 1888-89 (1892), p. LIX.
- [First attempt at artificial propagation of the squeteague.] Report, 1889-91 (1893), p. 160.
- Taylor, Harden Franklin:** The structure and growth of the scales of the squeteague and the pigfish as indicative of life history. (Bibliography: p. 325-330.) Bulletin, 1914 (1915), vol. XXXIV, p. 285-330, illus., pl. L-LIX. *Doc. 823 issued Sept. 23, 1916.* F16-133
- Tower, Ralph Winfred:** Biliary calculi in the squeteague. Bulletin, 1901 (1902), vol. XXI, p. 131-135, pl. XXI. *Doc. 498 issued May 23, 1902.* F12-413

SCOMBERESOCIDÆ.

- Goode, George Brown:** [The flying-fish family—Scomberesocidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 459.
- Ryder, John Adam:** Development of the silver gar (*Belone longirostris*), with observations on the genesis of the blood in embryo fishes, and a comparison of fish ova with those of other vertebrates. Bulletin, 1881 (1882), vol. I, p. 283-301, pl. XIX-XXI. F12-323

SCOMBRIDÆ.

- Chadwick, B. P.:** Young mackerel destroyed by small-meshed seines. Bulletin, 1886 (1887), vol. VI, p. 193. F18-570
- Collins, Joseph William:** Notes on the movements, habits, and captures of mackerel for the season of 1882. Bulletin, 1882 (1883), vol. II, p. 273-285. F12-363
- Movements of mackerel in winter. Bulletin, 1884 (1884), vol. IV, p. 15. F18-205
- A search for mackerel off Block Island, Montauk, and Sandy Hook, in November, 1883. Bulletin, 1884 (1884), vol. IV, p. 49-51. F18-213
- On the scarcity of mackerel in the Gulf of Saint Lawrence. Bulletin, 1884 (1884), vol. IV, p. 427-430 and 435-438. F18-359
- Dressler, Fletcher B., and Bert Fesler:** A review of the mackerels (Scombrinæ of America and Europe. Bulletin, 1887 (1889), vol. VII, p. 429-446, pl. I-XI. F18-680
- Earll, R. Edward:** The Spanish mackerel: its natural history and artificial propagation, with an account of the origin and development of the fishery. Report 1880 (1883), p. 395-426, III pl. *Doc. 60 issued July 9, 1883.* F11-332
- Hatching blackfish and Spanish mackerel. Bulletin, 1884 (1884), vol. IV, p. 415-416. F18-353
- Goode, George Brown:** [The mackerel and its allies.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 281-303.
- [The chub mackerel—*Scomber colias*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 303-305.
- [The frigate mackerel—*Auristhazard*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 305-307.
- [The Spanish mackerel and its allies.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 307-316.
- [The bonito—*Sarda mediterranea*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 316-320.
- [The horse mackerel, tunny, or albacore.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 320-322.
- [The little tunny or albacore.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 322.
- Goode, George Brown; Joseph W. Collins; R. E. Earll; and Howard Clark:** Materials for a history of the mackerel fishery. (Contents.—Natural history, by G. Brown Goode. The mackerel fishery of the United States, by G. Brown Goode and J. W. Collins. Legislation for the protection of mackerel. Statistics of the mackerel fishery in 1880, by R. E. Earll. The mackerel canning industry, by R. E. Earll. Methods of packing and inspection laws, by A. H. Clark. Statistics of inspection of mackerel from 1804 to 1880, by A. H. Clark. Chronological notes, by J. W. Collins. Inspection laws, comp. by A. H. Clark. The mackerel fleet. Mackerel fishery in the Gulf of Saint Lawrence.) Report, 1881 (1884), 441 p., fold. diagr. *Doc. 52 issued Jan. 3, 1883.* 7-38960
- Kite, J. Alban:** Report upon apparatus and facilities needed for hatching Spanish mackerel. Report, 1883 (1885), p. 1095-1100, illus. F17-40

- McDonald, Marshall:** Spanish mackerel—investigations at Cherrystone, Va., during the summer of 1881. Report, 1881 (1884), p. 1131-1133. F16-348
- Martin, Stephen J.:** Notes on the mackerel fishery of 1881. Bulletin, 1881 (1882), vol. I, p. 132-133. F18-30
- Movements and catch of mackerel. Bulletin, 1882 (1883), vol. II, p. 89-90; 1883 (1883), vol. III, p. 295-296, 470. F18-78
- Merchant, George, jr.:** The incipency of night seining for mackerel. Bulletin, 1884 (1884), vol. IV, p. 142. F18-251
- Moore, John Percy:** Report on mackerel investigations in 1897. Report, 1898 (1899), p. 1-22. Doc. 399 issued Mar. 28, 1899. F11-111
- Nye, Willard:** Eels (*Anguilla rostrata*) in New Bedford water pipes—Mackerel abundant in Amherst River. Bulletin, 1882 (1883), vol. II, p. 272. F18-102
- Phillips, Barnet:** Early catch of mackerel. Bulletin, 1883 (1883), vol. III, p. 280. F18-136
- Ryder, John Adam:** Development of the Spanish mackerel (*Cybum maculatum*). Bulletin, 1881 (1882), vol. I, p. 135-173, pl. I-IV. F12-317
- Smith, Hugh McCormick:** The southern spring mackerel fishery of the United States. Bulletin, 1898 (1899), vol. XVIII, p. 193-271. Doc. 411 issued Oct. 19, 1899. F12-97
- Tanner, Zera Luther:** Movements of mackerel. Bulletin, 1883 (1883), vol. III, p. 471. F18-196
- Wood, William Maxwell:** Report of operations in hatching eggs of Spanish mackerel in Chesapeake Bay by the steamer *Fish Hawk* during the summer of 1883. Report, 1883 (1883), p. 1089-1094, illus. F17-39

SCOPELIDÆ.

- Goode, George Brown:** [The scopelus family—Scopelidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 547.

SCORPÆNIDÆ.

- Eigenmann, Carl H.:** On the viviparous fishes of the Pacific coast of North America. Bulletin, 1892 (1894), vol. XII, p. 381-478, pls. XCIV-CXVIII. Doc. 231 issued June 26, 1894. F12-159
- Goode, George Brown:** [Rosefish or red perch—*Sebastes marinus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 260-262.
- Jordan, David Starr:** [The rock cods of the Pacific.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 262-267.
- Ryder, John Adam:** On the intraovarian gestation of the redfish (*Sebastes marinus*). Bulletin, 1886 (1887), vol. VI, p. 92-94. F18-546

SCYTALINIDÆ.

- Goode, George Brown:** [The Congrogadus family—Congrogadidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 243.

SERRANIDÆ.

- Burns, Frank:** Rockfish in South Carolina. Bulletin, 1886 (1887), vol. VI, p. 124-125. F18-558
- Goode, George Brown:** [The sea bass—*Serranus atrarius*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 407-410.
- [The groupers.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 410-413.
- [The striped bass—*Roccus lineatus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 425-428.
- [The yellow bass.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 431.
- [The white perch—*Roccus americanus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 431-433.
- Harrell, J. Dock:** [Striped bass in Tangipahoa River.] Bulletin, 1885 (1885), vol. V, p. 96.
- Healy, R.:** Striped bass in Piankatank River, Virginia. Bulletin, 1882 (1883), vol. II, p. 75-76. F18-75

- Jordan, David Starr: A review of the genera and species of Serranidæ found in the waters of America and Europe. Bulletin, 1888 (1890), vol. VIII, p. 329-441, pl. LX-LXIX. Doc. 144 issued Mar. 25, 1891. F11-325
- [The serranoid fishes of the Pacific coast.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 413-414.
- Mason, Harry W.: Report of operations on the Navesink River, New Jersey, in 1879, in collecting living striped bass for transportation to California. Report, 1879 (1882), p. 663-666. F17-15
- Mosher, Gideon: Do striped bass (*Roccus lineatus*) feed on menhaden? Bulletin, 1883 (1883), vol. III, p. 410. F18-154
- Norny, E. R.: On the propagation of the striped bass. Bulletin, 1881 (1882), vol. I, p. 67-68. F18-25
- A proposed pond for rearing striped bass (*Roccus lineatus*) in Delaware Bay. Bulletin, 1881 (1882), vol. I, p. 260-261. F18-48
- Ryder, John Adam: The micropyle of the egg of the white perch. Bulletin, 1881 (1882), vol. I, p. 282. F18-53
- Smiley, Charles Wesley: Occurrence of black grouper or jew-fish off Block Island. Bulletin, 1884 (1884), vol. IV, p. 240. F13-104
- Throckmorton, S. R.: The introduction of striped bass into California. Bulletin, 1881 (1882), vol. I, p. 61-62. F18-21
- Wilson, Henry Van Peters: The embryology of the sea bass (*Serranus atrarius*). (List of papers referred to: p. 271-272.) Bulletin, 1889 (1891), vol. IX, p. 209-277. illus., pls. LXXXVIII-CVII. Doc. 160 issued July 7, 1891. F12-148
- Worth, Stephen G.: The artificial propagation of the striped bass (*Roccus lineatus*) on Albemarle Sound. Bulletin, 1881 (1882), vol. I, p. 174-177, pl. I-III. F18-34
- Report upon the propagation of striped bass at Weldon, N. C., in the spring of 1884. Report, 1884 (1884), vol. IV, p. 225-231. F13-100
- Prospectus of striped bass operations for the season of 1885. Bulletin, 1885 (1885), vol. V, p. 35-36. F18-371
- The striped bass or rockfish industry of Roanoke Island, N. C., and vicinity. Bulletin, 1887 (1889), vol. VII, p. 193-197. F18-666

SILURIDÆ.

- Gardner, A. P.: Experiments in the pond culture of trout, suckers, and catfish. Bulletin, 1883 (1883), vol. III, p. 417-420. F18-157
- Hiestor, Charles E.: Answers to questions relative to catfish. Bulletin, 1882 (1883), vol. II, p. 76-79. F18-76
- Jones, J. F.: The speckled catfish. Bulletin, 1884 (1884), vol. IV, p. 321-322. F18-323
- Jordan, David Starr: Proposed propagation of catfish as a food-fish. Bulletin, 1884 (1884), vol. IV, p. 292. F18-316
- [The catfish family—Siluridæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 627-629.
- The habits and value for food of the American channel catfish (*Ictalurus punctatus* Rafinesque). Bulletin, 1885 (1885), vol. V, p. 34. F18-372
- Jordan, David Starr, and Charles H. Gilbert: A review of the siluroid fishes found on the Pacific coast of tropical America, with descriptions of three new species. Bulletin, 1882 (1883), vol. II, p. 34-54. F12-345
- Jousset de Bellesme, Georges Louis Marie Felicien: American catfish in the Trocadéro aquarium of Paris. Bulletin, 1886 (1887), vol. VI, p. 257. F18-586
- Kendall, William Converse: Habits of some of the commercial catfishes. Bulletin, 1902 (1904), vol. XXII, p. 399-409. Doc. 532 issued Aug. 9, 1903. F12-71
- American catfishes: Habits, culture, and commercial importance. Report and special papers. 1908 (1910), 39 p., X pl. Doc. 733 issued Aug. 23, 1910. 10-35947
- Lefebvre, Alfred: The proposed introduction of American catfish into the rivers of Belgium. Bulletin, 1882 (1883), vol. II, p. 153-154.
- Lewis, George A.: [Gaff-topsail catfish taken in Narraganset Bay.] Bulletin, 1886 (1887), vol. VI, p. 144.
- McDonald, Marshall: Transferring catfish from the Potomac to the Colorado River, Arizona. Bulletin, 1884 (1884), vol. IV, p. 212. F18-284
- Ryder, John Adam: Preliminary notice of the development and breeding habits of the Potomac catfish, *Amiurus albidus* (Lesueur) Gill. Bulletin, 1883 (1883), vol. III, p. 225-230. F12-393

Smiley, Charles Wesley: Sending catfish to Europe. Bulletin, 1885 (1885), vol. V, p. 433-434. F18-497

Smith, Hugh McCormick, and Leighton G. Harron: Breeding habits of the yellow catfish. Bulletin, 1902 (1904), vol. XXII, p. 149-154. Doc. 517 issued Mar. 30, 1903. F12-61

Wilson, Thomas: The proposed introduction of catfish into Ghent. Bulletin, 1881 (1882), vol. I, p. 340. F20-

SOLEIDÆ.

Goode, George Brown: [The American soles—Soleidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 175-177.

SPARIDÆ.

Baird, Spencer Fullerton: [Natural history of some of the more important food fishes of the south shore of New England (scup).] Report, 1871-72 (1873), p. 228-235.

Goode, George Brown: [The sheepshead family—Sparidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 381.

—— [The sheepshead—*Diplodus probatocephalus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 381-386.

—— [The scup or scuppaug—*Stenotomus versicolor* and *S. Gardeni*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 386-393.

—— [The sailor's choice—*Lagodon rhomboides*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 393-394.

—— [Certain minor sparoids.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 394-395.

Jordan, David Starr: A review of the sparoid fisheries of America and Europe. Report, 1889-91 (1893), p. 421-544, pl. 28-62. Doc. 219 issued Oct. 28, 1893. F14-84

SPHYRÆNIDÆ.

Goode, George Brown: [The barracouta family—Sphyrænidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 448.

Smith, Hugh McCormick: [Valuable food fish of California.] Bulletin, 1894 (1895), vol. XIV, p. 230-231.

STROMATEIDÆ.

Goode, George Brown: [The rudder-fish family—Stromateidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 332-334.

SYNGNATHIDÆ.

Goode, George Brown: [The pipe-fish family—Syngnathidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 172-173.

Ryder, John Adam: A contribution to the development and morphology of the Lophobranchiates (*Hippocampus antiquorum*, the sea horse). Bulletin, 1881 (1882), vol. I, p. 191-199, pl. XVII. F12-320

SYNODONTIDÆ.

Goode, George Brown: [The snake fish family—Synodontidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 548.

TENTHITIDÆ.

Goode, George Brown: [The surgeon-fish family—Acanthuridæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 279-280.

TETRODONTIDÆ.

Goode, George Brown: [The bellows-fish family—Tetrodontidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 170.

THYMALLIDÆ.

- Goode, George Brown: [The grayling—*Thymallus tricolor*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 505-507. F11-206
- Milner, James W.: Notes on the grayling of North America, [and descriptions of new species of *Coregonus* and *Argyrosomus*.] Report, 1872-73 (1874), p. 729-742.

TRACHYPTERIDÆ.

- Goode, George Brown: [The deal-fish family—Trachypteridæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 449.

TRICHIURIDÆ.

- Goode, George Brown: [The cutlass-fish—*Trichiurus lepturus*.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 335-336.

TRIGLIDÆ.

- Goode, George Brown: [The sea-robin or gurnard family—Triglidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 255-258.

XIPHIIDÆ.

- Clark, Alonzo Howard: Notes on the New England fishery for swordfish during the season of 1884. Report, 1884 (1886), p. 233-239. F17-126
- Goode, George Brown: Materials for a history of the swordfish. Report, 1880 (1883), p. 289-394, XXIV pl. F16-284
- [The sword-fish family—Xiphiidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 336-356.

ZENIDÆ.

- Goode, George Brown: [The dory family—Zenidæ.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 335.

GEOGRAPHICAL DISTRIBUTION.

UNITED STATES.

GENERAL.

- Baird, Spencer Fullerton, and Theodore Gill: Questions relative to the food-fishes of the United States. Report, 1871-72 (1873), p. 3-6. F12-213
- Bean, Tarleton Hoffman: Catalogue of the collections of fishes exhibited by the United States National museum. In Great International fisheries exhibition, London, 1883. United States of America, 124 p. Doc. 59 issued June 30, 1883. F12-295
- Eigenmann, Carl H.: Results of explorations in western Canada and northwestern United States. Bulletin, 1894 (1895), vol. XIV, p. 101-132, pl. 5-8. Doc. 282 issued July 9, 1894. 6-10551
- Evermann, Barton Warren, and William Converse Kendall: Descriptions of new or little-known genera and species of fishes from the United States. Bulletin, 1897 (1898), vol. XVII, p. 125-133, pl. 6-9. Doc. 358 issued Feb. 8, 1898. F12-242
- Gill, Theodore Nicholas: Catalogue of the fishes of the east coast of North America. Report, 1871-72 (1873), p. 779-822. F15-124
- Jordan, David Starr: A catalogue of the fishes known to inhabit the waters of North America, north of the Tropic of Cancer, with notes on the species discovered in 1883 and 1884. Report, 1885 (1887), p. 789-973. Doc. 94 issued Oct. 2, 1885. F11-302
- The geographical distribution of fresh-water food-fishes in the several hydrographic basins of the United States. In The fisheries and fishery industries of the United States. 1887. Sec. III, p. 133-154 incl. tables.
- Jordan, David Starr, and Barton Warren Evermann: A check-list of the fishes and fish-like vertebrates of North and Middle America. Report, 1895 (1896), p. 207-584. Doc. 336 issued Dec. 28, 1896. F11-199

- Kendall, William Converse, and Hugh McCormick Smith:** Extension of the recorded range of certain marine and fresh-water fishes of the Atlantic coast of the United States. Bulletin, 1894 (1895), vol. XIV, p. 15-21. *Doc. 233 issued Mar. 19, 1894.* F12-172
- Smith, Hugh McCormick, and William C. Kendall:** Notes on the extension of the recorded range of certain fishes of the United States coasts. Report, 1896 (1898), p. 169-176. *Doc. 339 issued June 15, 1897.* F11-176

ALABAMA.

- Gilbert, Charles Henry:** Report of explorations made in Alabama during 1889, with notes on the fishes of the Tennessee, Alabama, and Escambia rivers. Bulletin, 1889 (1891), vol. IX, p. 143-159, II pl. *Doc. 157 issued June 16, 1891.* F12-145

ALASKA.

- Bean, Tarleton Hoffman:** Report on the salmon and salmon rivers of Alaska, with notes on the conditions, methods, and needs of the salmon fisheries. Bulletin, 1889 (1891), vol. IX, p. 165-208, LV pl. XLV-LXXXVII (partly fold.) *Doc. 159 issued June 11, 1891.* F12-147
- Evermann, Barton Warren, and Edmund Lee Goldsborough:** The fishes of Alaska. (Bibliography: p. 358-360.) Bulletin, 1906 (1907), vol. XXVI, p. 219-360, illus., pls. (partly col.) *Doc. 624 issued Dec. 6, 1907.* 7-35452
- Gilbert, Charles Henry, and Charles Victor Burke:** Fishes from Bering Sea and Kamchatka. Bulletin, 1910 (1912), vol. XXX, p. 31-96, illus. *Doc. 754 issued May 6, 1912.* F12-93
- Jordan, David Starr, and R. C. McGregor:** List of fishes collected at the Revillagigedo Archipelago and neighboring islands. Report, 1898 (1899), p. 271-284, pls. *Doc. 404 issued Mar. 22, 1899.* F11-116
- Moser, Jefferson F.:** The salmon and salmon fisheries of Alaska. Report of the operations of the United States Fish commission steamer *Albatross* for the year ending June 30, 1898. Bulletin, 1898 (1899), vol. XVIII, p. 1-178, illus., fold. charts, 63 pl. *Doc. 408 issued July 27, 1899.* F12-94
- The salmon fisheries of Alaska. Report of the Alaska salmon investigations of the United States Fish commission steamer *Albatross* in 1900 and 1901. Bulletin, 1901 (1902), vol. XXI, 1 p. 1., p. 173-398, 399*-401*, illus., fold. tables and charts, XLIV pl. *Doc. 510 issued Oct. 31, 1902.* F12-278
- Rutter, Cloudsley:** Notes on a collection of tide-pool fishes from Kadiak Island in Alaska. Bulletin 1898 (1899), vol. XVIII, p. 189-192, illus. *Doc. 410 issued Aug. 21, 1899.* F12-96

ARKANSAS.

- Meek, Seth Eugene:** Report of the explorations made in Missouri and Arkansas during 1889, with an account of the fishes observed in each of the river basins examined. Bulletin, 1889 (1891), vol. IX, p. 113-141, II pl. XLII. *Doc. 156 issued June 19, 1891.* F12-144
- Report of investigations respecting the fishes of Arkansas conducted during 1891, 1892, and 1893, with a synopsis of previous explorations in the same State. Bulletin, 1894 (1895), vol. XIV, p. 67-94. *Doc. 280 issued May 5, 1894.* 6-12593
- A list of fishes and mollusks collected in Arkansas and Indian Territory in 1894. Bulletin, 1895 (1896), vol. XV, p. 341-350. *Doc. 306 issued Apr. 9, 1897.* 6-19634

CALIFORNIA.

- Campbell, J. B.:** Notes on McCloud River, California, and some of its fishes. Based upon a letter from J. B. Campbell. Bulletin, 1881 (1882), vol. 1, p. 44-46. F18-14
- Evermann, Barton Warren:** The golden trout of the southern high Sierras. (Bibliography: p. 50-51.) Bulletin, 1905 (1906), vol. XXV, p. 3-51, XVII pl. (partly col.) fold. map. *Doc. 595 issued May 19, 1906.* F11-66
- Gilbert, Charles Henry:** The fishes of the Klamath River basin. Bulletin, 1897 (1898), vol. XVII, p. 1-13, illus. *Doc. 351 issued Jan. 6, 1898.* 11-19957
- Report on fishes obtained by the steamer *Albatross* in the vicinity of Santa Catalina Island and Monterey Bay. Report, 1898 (1899), p. 23-29, pls. *Doc. 400 issued Mar. 22, 1899.* F11-112

- Greeley, Arthur White:** Notes on the tide-pool fishes of California, with a description of four new species. Bulletin, 1899 (1901), vol. XIX, p. 7-20, illus. *Doc. 425 issued Dec. 13, 1899.* F12-41
- Jordan, David Starr:** Notes on the fresh-water species of San Luis Obispo County, California. Bulletin, 1894 (1895), vol. XIV, p. 141-142. *Doc. 288 issued Nov. 22, 1894.* F15-50
- Jordan, David Starr, and Charles H. Gilbert:** List of fishes inhabiting Clear Lake, California. Bulletin, 1894 (1895), vol. XIV, p. 139-140. *Doc. 288 issued Nov. 22, 1894.* F15-50
- Juday, Chancey:** Notes on Lake Tahoe, its trout and trout-fishing. (Literature cited: p. 146.) Bulletin, 1906 (1907), vol. XXVI, p. 133-146. *Doc. 615 issued May 11, 1907.* F11-63
- Rutter, Cloudsley:** Notes on the fishes from streams and lakes of northeastern California not tributary to the Sacramento River basin. Bulletin, 1902 (1904), vol. XXII, p. 143-148, illus. *Doc. 516 issued Mar. 30, 1903.* F12-60
- The fishes of the Sacramento-San Joaquin basin, with a study of their distribution and variation. (Bibliographical review: p. 111-117.) Bulletin, 1907 (1908), vol. XXVII, p. 103-152, illus., pl. *Doc. 637 issued Sept. 28, 1908.* 8-35668
- Smith, Hugh McCormick:** [Fish.] Bulletin, 1894 (1895), vol. XIV, p. 282-285, 287, 288.
- Snyder, John Otterbein:** Notes on the fishes of the streams flowing into San Francisco Bay, California. Critical notes on *Mylocheilus lateralis* and *Leuciscus caurinus*. Report, 1904 (1905), p. 327-342, pl. *Doc. 574 issued July 14, 1905.* F10-9
- The fishes of the coastal streams of Oregon and northern California. Bulletin, 1907 (1908), vol. XXVII, p. 153-189, illus., fold. map. *Doc. 638 issued Oct. 21, 1908.* 8-35707
- The fishes of the streams tributary to Monterey Bay, California. Bulletin, 1912 (1913), vol. XXXII, p. 47-72, pl. XIX-XXIV. *Doc. 776 issued July 24, 1913.* F16-49
- The fishes of the streams tributary to Tomales Bay, California. Bulletin, 1914 (1916), vol. XXXIV, p. 375-381, illus. *Doc. 825 issued June 2, 1916.* F16-107
- The fishes of the Lahontan system of Nevada and northeastern California. Bulletin, 1915-16 (1918), vol. XXXV, p. 33-86, illus., pl. III-V (part fold.). *Doc. 843 issued Sept. 28, 1917.* F17-260

COLORADO.

- Jordan, David Starr:** Report of explorations in Colorado and Utah during the summer of 1889, with an account of the fishes found on each of the river basins examined. Bulletin 1889 (1891), vol. IX, p. 1-40, V pl. *Doc. 148 issued June 11, 1891.* F12-136
- Juday, Chancey:** List of fishes collected in Boulder County, Colorado, with description of a new species of *Leuciscus*. Bulletin, 1904 (1905), vol. XXIV, pl. 223-227, illus. *Doc. 565 issued Mar. 17, 1905.* F12-50
- A study of Twin Lakes, Colorado, with special consideration of the food of the trouts. (Bibliography: p. 175-178.) Bulletin, 1906 (1907), vol. XXVI, p. 147-178. *Doc. 616 issued May 24, 1907.* F11-64

DELAWARE.

- Abbott, Charles Conrad:** Notes on some fishes of the Delaware River. Report, 1875-76 (1878), pl. 825-845.

DISTRICT OF COLUMBIA.

- Smith, Hugh McCormick, and Barton A. Bean:** List of fishes known to inhabit the waters of the District of Columbia and vicinity. Bulletin, 1898 (1899), vol. XVIII, p. 179-187. *Doc. 409 issued Aug. 21, 1899.* F12-95

FLORIDA.

- Clarke, H. R.:** [Fish in Florida waters.] Bulletin, 1885 (1885), vol. V, p. 351.
- Evermann, Barton Warren:** The fish fauna of Florida. Bulletin, 1897 (1898), vol. XVII, p. 201-208. *Doc. 371 issued Aug. 8, 1898.* F12-110

- Evermann, Barton Warren, and William Converse Kendall:** Check-list of the fishes of Florida. Report, 1899 (1900), p. 35-103. *Doc. 419 issued Oct. 4, 1899.* 6-4028
- Henshall, James Alexander:** Report upon a collection of fishes made in southern Florida during 1889. Bulletin 1889 (1891), vol. IX, p. 371-389, IV. *Doc. 167 issued Aug. 10, 1891.* F12-154
- Notes on fishes collected in Florida in 1892. Bulletin, 1894 (1895), vol. XIV, p. 209-221. *Doc. 292 issued May 20, 1895.* 6-12590
- A plea for the development and protection of Florida fish and fisheries. Bulletin, 1897 (1898), vol. XVII, p. 253-255. *Doc. 377 issued Aug. 8, 1898* F12-110
- Jordan, David Starr:** The fishes of the Florida Keys. Bulletin, 1884 (1884), vol. IV, p. 77-80. F13-84
- Notes on the fishes collected in the Tortugas Archipelago. Bulletin, 1902 (1904), vol. XXII, p. 539-544, 2 pl. *Doc. 547 issued Jan. 19, 1904.* F12-75
- Jordan, David Starr, and Joseph C. Thompson:** The fish fauna of the Tortugas Archipelago. Bulletin, 1904 (1905), vol. XXIV, p. 229-256, illus. *Doc. 568 issued May 3, 1905.* F12-9
- Pierce, H. D.:** Notes on the bluefish, mortality of Florida fishes, etc. Bulletin, 1884 (1884), vol. IV, p. 263-266 F18-307
- Poey y Aloy, Felipe:** List of food-fishes brought from Key West, Fla., into the markets of Havana. Bulletin, 1882 (1883), vol. II, p. 118. F18-88.
- Poincy, J. W. de:** Description of a fish-trap and oyster basin. Bulletin, 1885 (1885), vol. V, p. 134. F18-389
- Smith, Hugh McCormick:** Notes on Biscayne Bay, Florida, with reference to its adaptability as the site of a marine hatching and experiment station. Report, 1895 (1896), p. 169-191. *Doc. 333 issued Jan. 8, 1897.* F11-196
- Stevens, M. E.:** [The fish of Indian River.] Bulletin, 1885 (1885), vol. V, p. 93-99.
- U. S. Bureau of Fisheries:** Report on the fisheries of Indian River, Florida, transmitted to the U. S. Senate by the Commission of fish and fisheries, January 5, 1897. Report, 1896 (1898), p. 223-262, pls. *Doc. 341 issued June 16, 1897.* F11-179
- Report on the fish and fisheries of the coastal waters of Florida, transmitted to the U. S. Senate by the Commissioner of fish and fisheries, January 28, 1897. Report, 1896 (1898), p. 263-342. *Doc. 342 issued Feb. 25, 1898.* F11-180
- Woolman, Albert J.:** Report upon the rivers of central Florida, tributary to the Gulf of Mexico, with list of fishes inhabiting them. Bulletin, 1890 (1892), vol. X, p. 293-302, pl. LII-LIII. *Doc. 198 issued Sept. 24, 1892.* F12-115

GEORGIA.

- Gilbert, Charles H.:** Notes on fishes from the lowlands of Georgia, with a description of a new species (*Opsopoeodus bollmani*). Bulletin, 1888 (1890), vol. VIII, p. 225-229. *Doc. 142 issued Apr. 28, 1891.* F11-323
- Hudson, George A.:** Carp caught in Ogeechee River. Bulletin, 1884 (1884), vol. IV, p. 123. F18-241

IDAHO.

- Evermann, Barton Warren:** A report upon salmon investigations in the headwaters of the Columbia River, in the State of Idaho, in 1895; together with notes upon the fishes observed in that State in 1894 and 1895. Bulletin, 1896 (1896), p. 149-202, pl. 67-72 (partly fold.). *Doc. 318 issued Nov. 17, 1896.* F11-343
- Evermann, Barton Warren, and Seth Eugene Meek:** A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus., 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241

ILLINOIS.

- Nelson, Edward William:** Fisheries of Chicago and vicinity. (Containing lists of species taken at Chicago and fishing in adjacent waters; and species in the Illinois River in the vicinity of Peoria.) Report, 1875-76 (1878), p. 783-800, illus. F16-69

INDIAN TERRITORY.

- Meek, Seth Eugene:** [Two small collections of fish from Indian Territory.] Bulletin, 1894 (1895), vol. XIV, p. 94.
- A list of fishes and mollusks collected in Arkansas and Indian Territory in 1894. Bulletin, 1895 (1896), vol. XV, p. 341-350. *Doc. 306 issued Apr. 9, 1897.*

INDIANA.

- Kirsch, Philip H.:** A report upon explorations made in Eel River basin in the north-eastern part of Indiana in the summer of 1892. Bulletin, 1894 (1895), vol. XIV, p. 31-41. *Doc. 235 issued Mar. 24, 1894.* F12-175
- Meek, Seth Eugene:** Report of explorations made during the summer and autumn of 1888, in the Alleghany region of Virginia, North Carolina, and Tennessee, and in western Indiana, with an account of the fishes found in each of the river basins of those regions. Bulletin 1888 (1890), vol. VIII, p. 97-173, pl. XIII-XV. *Doc. 136 issued Mar. 13, 1890.* F11-318

IOWA.

- Meek, Seth Eugene:** Report upon the fishes of Iowa, based upon observations and collections made during 1889, 1890, and 1891. Bulletin, 1890 (1892), vol. X, p. 217-248. *Doc. 195 issued Sept. 14, 1892.* F12-133
- Notes on the fishes of western Iowa and eastern Nebraska. Bulletin, 1894 (1895), vol. XIV, p. 133-138. *Doc. 288 issued Nov. 22, 1894.* F15-50

KENTUCKY.

- Evermann, Barton Warren:** The fishes of Kentucky and Tennessee: A distributional catalogue of the known species. (Bibliography: p. 305-368.) Bulletin, 1915-16 (1918), vol. XXXV, p. 295-368. *Doc. 858 issued Jan. 10, 1918.* F18-5
- Kirsch, Philip H.:** Notes on the streams and fishes of Clinton County, Kentucky, with a description of a new darter. Bulletin, 1890 (1892), vol. X, p. 289-292, illus. *Doc. 197 issued Sept. 14, 1892.* F12-131
- Notes on a collection of fishes from the southern tributaries of the Cumberland River in Kentucky and Tennessee. Bulletin, 1891 (1893), vol. XI, p. 259-268. *Doc. 211 issued May 25, 1893.* F12-158
- Woolman, Albert J.:** Report on an examination of the rivers of Kentucky, with lists of the fishes obtained. Bulletin, 1890 (1892), vol. X, p. 249-288, pl. II. *Doc. 196 issued Sept. 14, 1892.* F12-130

LOUISIANA.

- Evermann, Barton Warren:** Report on investigations by the U. S. Fish commission in Mississippi, Louisiana, and Texas in 1897. Report, 1898 (1899), p. 285-310, pls. *Doc. 405 issued Mar. 21, 1899.* F11-117

MAINE.

- Hanna, S. W.:** Description of an eel-like creature taken in a net at New Harbor, Maine, in 1880. Bulletin, 1883 (1883), vol. III, p. 407-410, illus. F18-153
- Kendall, William Converse:** Notes on the fresh-water fishes of Washington County, Maine. Bulletin, 1894 (1895), vol. XIV, p. 43-54. *Doc. 236 issued Mar. 24, 1894.* F12-173
- [Fishes of Lake Sebago and Lake Cobbosseecontee.] Report, 1900 (1901), p. 128-129.
- Notes on some fresh-water fishes from Maine, with descriptions of three new species. Bulletin, 1902 (1904), vol. XXII, p. 353-368, illus. *Doc. 531 issued Aug. 14, 1903.* F12-68
- Fishes and fishing in Sunapee Lake. Report and special papers, 1912 (1914), 96 p., illus., IX pl. (part. col.). *Doc. 783 issued Jan. 28, 1914.* F14-1
- The Rangeley Lakes, Maine; with special reference to the habits of the fishes, fish culture, and angling. Bulletin, 1915-16 (1918), vol. XXXV, p. 485-594, illus., pl. XL-XLVI (part. col.). *Doc. 861 issued May 25, 1918.* F18-682

MARYLAND.

- Smith, Hugh McCormick:** Notes on fishes from the lower Potomac River. Bulletin, 1890 (1892), vol. X, p. 63-72, pl. XVIII-XX. *Doc. 189 issued June 30, 1892.* F12-128
- Smith, Hugh McCormick, and Barton A. Bean:** List of fishes known to inhabit the waters of the District of Columbia and vicinity. Bulletin, 1898 (1899), vol. XVIII, p. 179-187. *Doc. 409 issued Aug. 21, 1899.* F12-95

MASSACHUSETTS.

- Baird, Spencer Fullerton:** Natural history of some of the more important food-fishes of the south shore of New England. Report, 1871-72 (1873), p. 228-252. F15-100
- List of fishes collected at Woods Hole. Report, 1871 and 1872 (1873), p. 821-827. F15-125
- Bean, Tarleton Hoffman:** List of fishes collected by the U. S. Fish commission at Woods Hole, Massachusetts, during the summer of 1881. Report, 1882 (1884), p. 339-344. *Doc. 87 issued Sept. 26, 1884.* F11-307
- Gill, Theodore Nicholas:** State ichthyology of Massachusetts. Report, 1904 (1905), p. 163-188. *Doc. 567 issued Apr. 22, 1905.* 8-30676
- Goode, George Brown:** The natural and economical history of the American menhaden. Report, 1877 (1879), XII, 529 p., XXXI pl. F12-236
- Luce, Thomas R.:** Occurrence of *Balistes capricus* Gmelin (leather-jacket or file-fish) at New Bedford, Mass. Bulletin, 1883 (1883), vol. III, p. 469. F18-193
- Mather, Fred:** [Note on sea bass, skates, etc.] Bulletin, 1884 (1884), vol. IV, p. 365.
- Sherwood, George H., and Vinal N. Edwards:** [Notes on the migration, spawning, abundance, etc., of certain fishes in 1900.] Bulletin, 1901 (1902), vol. XXI, p. 27-31.
- Smith, Hugh McCormick:** The fishes found in the vicinity of Wood's Hole. Bulletin, 1897 (1898), vol. XVII, p. 85-111, illus., pl. 3 (fold.). *Doc. 353 issued Jan. 6, 1898.* F12-401
- [Additions to the fish fauna of the Woods Hole region in 1900.] Bulletin, 1901 (1902), vol. XXI, p. 32.
- [Notes on the subtropical fishes observed at Woods Hole in 1900.] Bulletin, 1901 (1902), vol. XXI, p. 32-33.
- U. S. Fisheries biological laboratory, Woods Hole:** Biological notes no. 1. Bulletin, 1899 (1901), vol. XIX, p. 305-310. *Doc. 447 issued Aug. 30, 1900.* 7-31521

- Biological notes no. 2. Bulletin, 1901 (1902), vol. XXI, p. 27-33. *Doc. 474 issued Sept. 26, 1901.* 7-31521
- Verrill, Addison Emory:** Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound. Report, 1882 (1884), p. 641-669. F11-267

MICHIGAN.

- Bollman, Charles H.:** A report upon the fishes of Kalamazoo, Calhoun, and Antrim counties, Michigan. Bulletin, 1888 (1890), vol. VIII, p. 219-225. *Doc. 141 issued Mar. 25, 1891.* F11-322
- Reighard, Jacob Ellsworth:** An ecological reconnaissance of the fishes of Douglas Lake, Cheboygan County, Michigan, in midsummer. (Literature cited: p. 249.) Bulletin, 1913 (1915), vol. XXXIII, p. 215-249, illus. *Doc. 814 issued Oct. 11, 1915.* F15-90

MINNESOTA.

- Cox, Ulysses Orange:** A report upon the fishes of southwestern Minnesota. Report, 1894 (1896), p. 605-616, map. *Doc. 328 issued Dec. 14, 1896.* F11-194
- Woolman, Albert J.:** Report upon ichthyological investigations in western Minnesota and eastern North Dakota. Report, 1893 (1895), p. 343-372, map. *Doc. 312 issued Mar. 23, 1896.* F17-122

MISSISSIPPI.

- Evermann, Barton Warren:** Report on investigations by the United States Fish commission in Mississippi, Louisiana, and Texas in 1897. Report, 1898 (1899), p. 285-310, pls. *Doc. 405 issued Mar. 21, 1899.* F11-117

MISSOURI.

- Evermann, Barton Warren:** Report upon the fishes of the Missouri River basin. Report, 1894 (1896), p. 325-429. *Doc. 324 issued Nov. 27, 1896.* F11-190
- Evermann, Barton Warren, and Kendall, William Converse:** A list of the species of fishes known from the vicinity of Neosho, Missouri. Bulletin, 1894 (1895), vol. XIV, p. 469-472. *Doc. 297 issued May 23, 1896.* 6-10564
- Meek, Seth Eugene:** Report of explorations made in Missouri and Arkansas during 1889, with an account of the fishes observed in each of the river basins examined. Bulletin, 1889 (1891), vol. IX, p. 113-141, II, pl. XLII. *Doc. 156 issued June 19, 1891.* F12-144

MONTANA.

- Evermann, Barton Warren: [Annotated list of fishes obtained in Montana.]
Bulletin, 1891 (1893), vol. XI, p. 41-52.

NEBRASKA.

- Meek, Seth Eugene: Notes on the fishes of western Iowa and eastern Nebraska.
Bulletin, 1894 (1895), vol. XIV, p. 133-138. *Doc. 288 issued Nov. 22, 1894.*
F15-50

NEVADA.

- Snyder, John Otterbein: The fishes of the Lahontan system of Nevada and north-eastern California. Bulletin, 1915-16 (1918), vol. XXXV, 1 p. 1., p. 33-86, illus., pl. III-V (part fold.). *Doc. 843 issued Sept. 28, 1917.*
F17-260

NEW HAMPSHIRE.

- Kendall, William Converse: Fishes and fishing in Sunapee Lake. Report and special papers, 1912 (1914), 96 pl., illus., IX pl. (part col.). *Doc. 783 issued Jan. 28, 1914.*
F14-1
Kendall, William Converse, and E. L. Goldsborough: Fishes of the Connecticut Lakes and neighboring waters, with notes on the plankton environment. (By A. A. Doolittle: p. 65-77.) Report and special papers, 1907 (1909), 77 p., 12 pls., fold. map, fold. diagr. *Doc. 633 issued July 6, 1908.*
8-35558

NEW JERSEY.

- Abbott, Charles Conrad: Notes on some fishes of the Delaware River. Report, 1875-76 (1878), p. 825-845.
Bean, Tarleton Hoffman: Report on the fishes observed in Great Egg Harbor Bay, New Jersey, during the summer of 1887. Bulletin, 1887 (1889), vol. VII, p. 129-154 incl. tables, pl. I-III. *Doc. 122 issued Dec. 8, 1888.*
F11-251
Moore, Henry Frank: List of fishes collected at Sea Isle City, New Jersey, during the summer of 1892. Bulletin, 1892 (1894), vol. XII, p. 357-364. *Doc. 229 issued Feb. 28, 1894.*
F12-161
Smith, Hugh McCormick: Economic and natural history notes on fishes of the northern coast of New Jersey. Bulletin, 1892 (1894), vol. XII, p. 365-380. *Doc. 230 issued Mar. 8, 1894.*
F12-162
Van Mater, J. H.: Occurrence of *Balistes vetula* on the New Jersey coast. Bulletin, 1884 (1884), vol. IV, p. 13.
F18-203
Ward, F. M.: Young salmon in northern New Jersey. Bulletin, 1886 (1887), vol. VI, p. 345.
F18-608

NEW MEXICO.

- Evermann, Barton Warren: The fishes of Texas and the Rio Grande basin considered chiefly with reference to their geographical distribution. ("Annotated list of the reptiles and batrachian collected in Missouri and Texas in the fall of 1891. By F. C. Test": p. 121.) Bulletin, 1892 (1894), vol. XII, p. 57-126. *Doc. 225 issued Feb. 6, 1894.*
F12-160

NEW YORK.

- Bean, Tarleton Hoffman: Notes upon an exploration on Long Island Sound. Bulletin, 1885 (1885), vol. V, p. 33.
F18-370
Evermann, Barton Warren, and E. L. Goldsborough: Notes on the fishes and mollusks of Lake Chautauqua, New York. Report, 1901 (1902), p. 169-175. *Doc. 483 issued Mar. 28, 1902.*
F11-19
Loomis, Watts T.: A landlocked salmon caught in Erie Canal. Bulletin, 1884 (1884), vol. IV, p. 288.
F18-312
Mather, Fred: Notes on cod, shrimp, etc., at Cold Springs Harbor. Bulletin, 1884, 1884), vol. IV, p. 123.
F18-242
Merriam, C. Hart: The fish of Lake Champlain. Bulletin, 1884 (1884), vol. IV, p. 287-288.
F13-106
Morgan, George: Capture of landlocked salmon at Oswego, New York. Bulletin, 1882 (1883), vol. II, p. 15.
F18-65

NORTH CAROLINA.

- Evermann, Barton Warren, and Ulysses O. Cox:** The fishes of the Neuse River basin. (Bibliography: p. 306-308.) Bulletin, 1895 (1896), vol. XV, p. 203-210. *Doc. 303 issued Mar. 2, 1896.* F18-10544
- Jordan, David Starr:** Report of explorations made during the summer and autumn of 1888, in the Alleghany region of Virginia, North Carolina, and Tennessee, and in western Indiana, with an account of the fishes found in each of the river basins of those regions. Bulletin, 1888 (1889), vol. VIII, p. 97-173. *Doc. 136 issued Mar. 13, 1890.* F11-318
- Linton, Edwin:** [List of fifty-nine species of Beaufort fishes.] Bulletin, 1904 (1905), vol. XXIV, p. 339-416.
- Milligan, John D.:** [Fishes in Lake Mattamuskeet.] Report, 1900 (1901), p. 133-134.
- Smith, Hugh McCormick:** Report on a collection of fishes from the Albemarle region of North Carolina. Bulletin, 1891 (1893), vol. XI, p. 185-200. *Doc. 208 issued Mar. 22, 1893.* F11-352

NORTH DAKOTA.

- Lord, Henry W.:** The fish of Devil's Lake, Dakota. Bulletin, 1884 (1884), vol. IV, p. 351. F18-329
- Pope, Thomas E. B.:** Devils Lake, North Dakota. A study of physical and biological conditions, with a view to the acclimatization of fish. Report and special papers, 1907 (1909), 22 p., 3 pl., fold. map. *Doc. 634 issued July 16, 1908.* 8-35574
- Woolman, Albert J.:** Report upon ichthyological investigations in western Minnesota and eastern North Dakota. Report, 1893 (1895), p. 343-372, map. *Doc. 312 issued Mar. 23, 1896.* F17-122

OHIO.

- Evermann, Barton Warren:** Description of a new species of shad (*Alosa ohioensis*) with notes on other food fishes of the Ohio River. Report, 1901 (1902), p. 273-288. *Doc. 499 issued May 26, 1902.* F11-24
- Hobbs, Orlando:** A list of Ohio River fishes sold in the markets. Bulletin, 1881 (1882), vol. I, p. 124-125. F18-28

OREGON.

- Evermann, Barton Warren, and Seth Eugene Meek:** A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus., 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241
- Gilbert, Charles Henry:** The fishes of the Klamath basin. Bulletin, 1897 (1898), vol. XVII, p. 1-13. *Doc. 351 issued Jan. 6, 1898.* 11-19957
- Jordan, David Starr:** The mountain or salmon trout of Oregon. Bulletin, 1885 (1885), vol. V, p. 310. F18-456
- Snyder, John Otterbein:** Relationship of the fish fauna of the lakes of southeastern Oregon. Bulletin, 1907 (1908), vol. XXVII, p. 69-102, illus., fold. map, diagrs. *Doc. 636 issued Sept. 26, 1908.* 8-35669
- The fishes of the coastal streams of Oregon and northern California. Bulletin, 1907 (1908), vol. XXVII, p. 153-189, illus., fold. map. *Doc. 638 issued Oct. 21, 1908.* 8-35707

TENNESSEE.

- Evermann, Barton Warren:** The fishes of Kentucky and Tennessee: A distributional catalogue of the known species. (Bibliography: p. 305-332.) Bulletin, 1915-16 (1918), vol. XXXV, p. 295-368. *Doc. 858 issued Jan. 10, 1918.* F18-5
- Evermann, Barton Warren, and Samuel F. Hildebrand:** Notes on the fishes of east Tennessee. Bulletin, 1914 (1916), vol. XXXIV, p. 431-451, illus. *Doc. 832 issued Sept. 21, 1916.* F16-134
- Hay, Oliver Perry:** On a collection of fishes from the lower Mississippi Valley. Bulletin, 1882 (1883), vol. II, p. 57-75. F12-347
- Jordan, David Starr:** Report of explorations made during the summer and autumn of 1888, in the Alleghany region of Virginia, North Carolina and Tennessee, and in western Indiana, with an account of the fishes found in each of the river basins of those regions. Bulletin, 1888 (1890), vol. VIII, p. 97-173, pl. XIII-XV. *Doc. 136 issued Mar. 13, 1890.* F11-318
- Kirsch, Philip H.:** Notes on a collection of fishes from the southern tributaries of the Cumberland River in Kentucky and Tennessee. Bulletin, 1891 (1893), vol. XI, p. 259-268. *Doc. 211 issued May 25, 1893.* F12-158

TEXAS.

Evermann, Barton Warren: [Notes on Texas fishes, with descriptions of new species.] Bulletin, 1891 (1893), vol. XI, p. 75-88, pl. XXXV-XXXCI.

— Report on investigations by the United States Fish commission in Mississippi, Louisiana, and Texas in 1897. Report, 1888 (1889), p. 285-310, pls. *Doc. 405 issued Mar. 21, 1899.* F11-117

Evermann, Barton Warren, and William Converse Kendall: The fishes of Texas and the Rio Grande basin, considered chiefly with reference to their geographic distribution. Bulletin, 1892 (1894), vol. XII, p. 57-126, pl. X-L. *Doc. 225 issued Feb. 6, 1894.* F12-160

UTAH.

Jordan, David Starr: Report of explorations in Colorado and Utah during the summer of 1889, with an account of the fishes found in each of the river basins examined. Bulletin 1889 (1891), vol. IX, p. 1-40, V pl. *Doc. 148 issued June 11, 1891.* F12-136

Siler, Andrew L.: Depletion of fish in Panguitch and Bear Lakes, Utah. Bulletin, 1884 (1884), vol. IV, p. 51. F18-214

Snyder, John Otterhein: Three new whitefishes from Bear Lake, Idaho and Utah. Bulletin, 1917-18 (1921), vol. XXXVI, 7 p., illus. *Doc. 864 issued May 7, 1919.* F19-35

VERMONT.

Evermann, Barton Warren, and William C. Kendall: An annotated list of the fishes known from the State of Vermont. Report, 1894 (1896), p. 579-604. *Doc. 327 issued Dec. 14, 1896.* F11-19

VIRGINIA.

Jordan, David Starr: Report of explorations made during the summer and autumn of 1888, in the Alleghany region of Virginia, North Carolina, and Tennessee, and in western Indiana, with account of the river basins of those regions. Bulletin, 1888 (1890), vol. VIII, p. 97-173, pl. XIII-XV. *Doc. 136 issued Mar. 13, 1890.* F11-318

Smith, Hugh McCormick, and Barton A. Bean: List of fishes known to inhabit the waters of the District of Columbia and vicinity. Bulletin, 1898 (1899), vol. XVIII, p. 179-187. *Doc. 409 issued Aug. 21, 1899.* F12-95

WASHINGTON.

Evermann, Barton Warren: [Fishes of the Columbia River basin.] Report, 1899 (1900), p. CXXV.

Evermann, Barton Warren, and Seth Eugene Meek: A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus., 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241

Rathbun, Richard: A review of the fisheries in the contiguous waters of the State of Washington and British Columbia. Report, 1899 (1900), p. 251-350, pl. 8-16. *Doc. 423 issued Nov. 15, 1899.* F11-108

Townsend, Charles Haskin: [Fish in Seattle market.] Bulletin, 1888 (1890), vol. VIII, p. 54.

WEST VIRGINIA.

Goldsborough, Edmund Lee, and Howard Walton Clark: Fishes of West Virginia. Bulletin 1907 (1908), vol. XXVII, p. 29-39, II p., illus. *Doc. 631 issued Mar. 19, 1908.* 8-35258

WISCONSIN.

Marshall, William Stanley, and N. C. Gilbert: Notes on the food and parasites of some fresh-water fishes from the lakes at Madison, Wis. (Bibliography, p. 522.) Report, 1904 (1905), p. 513-522. *Doc. 591 issued Dec. 29, 1905.* F10-13

WYOMING.

Curtis, J. E.: Fish in the National park and tributaries of Snake River . . . Bulletin, 1884 (1884), vol. IV, p. 335-336. F18-326

Evermann, Barton Warren: [Annotated list of fishes obtained in Wyoming.] Bulletin, 1891 (1893), vol. XI, p. 41-52.

- Jordan, David Starr:** A reconnaissance of the streams and lakes of the Yellowstone national park, Wyoming, in the interest of the United States Fish commission. Bulletin, 1889 (1891), vol. IX, p. 41-63, II, pl. VII-XXII, fold. map. *Doc. 149 issued July 11, 1891.* F12-137
- Kendall, William Converse:** The fishes of the Yellowstone national park. Appendix VIII, Report 1914 (1915), 28 p., front., illus. *Doc. 818 issued July 16, 1915.* F15-79

SOUTH ATLANTIC STATES.

- Smith, Hugh McCormick:** [Fishes, scientific names, common designations, and vernacular of the region.] Bulletin, 1891 (1893), vol. XI, p. 356, pl. XLII-LXXIV.

GREAT LAKES.

- Evermann, Barton Warren:** List of species of fishes known to occur in the Great Lakes or their connecting waters. Bulletin, 1901 (1902), vol. XXI, p. 95-96. *Doc. 486 issued Mar. 28, 1902.* F12-271
- Evermann, Barton Warren, and W. C. Kendall:** Notes on the fishes of Lake Ontario. An annotated list of the fishes known to occur in Lake Champlain and its tributary waters. An annotated list of the fishes known to occur in the St. Lawrence River. Report, 1901 (1902), p. 209-240. *Doc. 494 issued Apr. 28, 1902.* F11-21
- Jordan, David Starr:** Notes on fishes observed in Lake Superior. Bulletin, 1885 (1885), vol. V, p. 191-192. F18-404
- Jordan, David Starr, and Barton Warren Evermann:** A review of the salmonoid fishes of the Great Lakes, with notes on the whitefishes of other regions. Bulletin, 1909 (1911), vol. XXIX, p. 1-41, illus., col. pl. I-VII. *Doc. 737 issued Feb. 7, 1911.* F11-39
- Milner, James W.:** [Food fishes of the Great Lakes.] Report, 1872-73 (1874), p. 35-75.
- Smith, Hugh McCormick:** Report on the fisheries of Lake Ontario. Bulletin, 1890 (1892), vol. X, p. 177-215, pl. XXI-L. *Doc. 194 issued July 16, 1892.* F12-129

COLORADO RIVER.

- Evermann, Barton Warren, and Cloudsley Rutter:** The fishes of the Colorado basin. (Bibliography of the ichthyology of the Colorado basin: p. 476-480.) Bulletin, 1894 (1895), vol. XIV, p. 473-486. *Doc. 297 issued May 23, 1896.* 6-10564

COLUMBIA RIVER.

- McDonald, Marshall; C. H. Gilbert; and B. W. Evermann:** The salmon fisheries of the Columbia River basin, by Marshall McDonald . . . together with a report upon physical and natural-history investigations in the region, by C. H. Gilbert and B. W. Evermann. Bulletin, 1894 (1895), vol. XIV, p. 153-207, pl. 13-25 (partly fold.). *Doc. 290 issued Aug. 27, 1894.* F12-174

DELAWARE RIVER.

- Abbott, Charles Conrad:** Notes on some fishes of the Delaware River. Report, 1875-76 (1878), p. 825-845. F16-71

MAUMEE RIVER.

- Kirsch, Philip H.:** Report upon investigations in the Maumee River basin during the summer of 1893. Bulletin, 1894 (1895), vol. XIV, p. 315-337. *Doc. 295 issued May 22, 1895.* 6-10556

MISSISSIPPI RIVER.

- Hay, Oliver Perry:** On a collection of fishes from the lower Mississippi Valley. Bulletin, 1882 (1883), vol. II, p. 57-75. F12-347
- Stringham, Emerson:** [Names of fishes of the Mississippi River.] Appendix II, Report, 1918 (1920), p. 8-9.

MISSOURI RIVER.

- Evermann, Barton Warren, and Ulysses O. Cox:** Report upon the Missouri River basin. Report, 1894 (1896), p. 325-429. *Doc. 324 issued Nov. 27, 1896.* F11-190

ST. LAWRENCE RIVER.

- Evermann, Barton Warren:** List of species of fishes known to occur in the Great Lakes or their connecting waters. Bulletin, 1901 (1902), vol. XXI, p. 95-96. *Doc. 486 issued Mar. 28, 1902.* F12-271

GULF OF MEXICO.

- Phillips, Barnet:** Notes on a trip to the Gulf of Mexico. Bulletin, 1884 (1884), vol. IV, p. 144. F18-255.

CANADA.

- Eigenmann, Carl H.:** Results of explorations in western Canada and the northwestern United States. Bulletin, 1894 (1895), vol. XIV, p. 101-132, pl. 5-8. *Doc. 282 issued July 9, 1894.* 6-10551
- Gilbert, Charles Henry:** Notes on fishes from the basin of the Mackenzie River in British America. Bulletin, 1894 (1895), vol. XIV, p. 23-25. *Doc. 234 issued Mar. 24, 1894.* F12-178
- Nye, Willard:** Notes taken during cruise of the *Albatross* to Grand Banks in June and July, 1885. Bulletin, 1885 (1885), vol. V, p. 336. F18-470
- Rathbun, Richard:** A review of the fisheries in the contiguous waters of the State of Washington and British Columbia. Report, 1899 (1900), p. 251-350, pl. 8-16. *Doc. 423 issued Nov. 15, 1899.* F11-108

WEST INDIES.

BAHAMAS.

- Lee, Thomas:** [Fishes collected by the *Albatross* in the Bahama Islands.] Report, 1886 (1889), p. 669-672.

CUBA.

- Eigenmann, Carl H.:** The fresh-water fishes of western Cuba. Bulletin, 1902 (1904), vol. XXII, p. 211-236, pl. 19-21. *Doc. 526 issued July 20, 1903.* F12-65

PORTO RICO.

- Evermann, Barton Warren, and Millard Caleb Marsh:** Descriptions of new genera and species of fishes from Porto Rico. Report, 1899 (1900), p. 351-362. *Doc. 427 issued Dec. 19, 1899.* 6-10554
- The fishes of Puerto Rico. Bulletin, 1900 (1903), vol. XX, pt. 1, p. 49-350, illus., 52 pls. incl. 3 fold. maps. *Doc. 451 issued Dec. 15, 1900.* 5-4161

MEXICO.

- Bean, Tarleton Hoffman:** Notes on fishes collected at Cozumel, Yucatan, by the U. S. Fish commission, with descriptions of new species. Bulletin, 1888 (1890), vol. VIII, p. 193-206, pl. XXVIII-XXIX. *Doc. 138 issued Mar. 13, 1890.* F11-320
- Evermann, Barton Warren, and Edmund Lee Goldsborough:** A report on fishes collected in Mexico and Central America, with notes and descriptions of five new species. Bulletin, 1901 (1902), vol. XXI, p. 137-159, illus. *Doc. 495 issued May 3, 1902.* 6-37425
- Evermann, Barton Warren, and William Converse Kendall:** [Fishes of Mexico.] Bulletin, 1892 (1894), vol. XII, p. 89.
- Jordan, David Starr, and Charles H. Gilbert:** List of fishes collected at Mazatlan, Mexico. Bulletin, 1882 (1883), vol. II, p. 105-108. F12-387
- Jordan, David Starr, and John Otterbein Snyder:** Notes on a collection of fishes from the rivers of Mexico, with descriptions of twenty new species. Bulletin, 1899 (1901), vol. XIX, p. 115-147, illus. *Doc. 436 issued Aug. 30, 1899.* F12-22
- Woolman, Albert J.:** Report on a collection of fishes from the rivers of central and northern Mexico. Bulletin, 1894 (1895), vol. XIV, p. 55-66, pl. *Doc. 279 issued May 2, 1894.* 6-10555

CENTRAL AMERICA.

- Evermann, Barton Warren, and Edmund Lee Goldsborough:** A report on fishes collected in Mexico and Central America, with notes and descriptions of five new species. *Bulletin*, 1901 (1902), vol. XXI, p. 137-159, illus. *Doc. 495 issued May 3, 1902.* 6-37425
- Gilbert, Charles H.:** List of fishes observed at Punta Arenas, on the Pacific coast of Central America. *Bulletin*, 1882 (1883), vol. II, p. 112. F12-386
- Jordan, David Starr:** List of fishes collected at Panama by Charles H. Gilbert. *Bulletin*, 1882 (1883), vol. II, p. 109-111. F12-330
- Jordan, David Starr, and Barton Warren Evermann:** A check list of the fishes and fish-like vertebrates of North and Middle America. Report, 1895 (1896), p. 207-584. *Doc. 336 issued Dec. 28, 1896.* F11-199
- Jordan, David Starr, and Charles H. Gilbert:** Descriptions of nineteen new species of fishes from the Bay of Panama. *Bulletin*, 1881 (1882), vol. I, p. 306-335. F11-219

SOUTH AMERICA.

- Krause, Hans Gunner:** The fisheries of the west coast of South America. Report, 1879 (1882), p. 515-522. F17-8
- Quelch, J. J.:** Fish and fishing in British Guiana. *Bulletin*, 1893 (1894), vol. XIII, p. 237-240. *Doc. 260 issued June 9, 1894.* F12-183

GREAT BRITAIN.

- Fishery Board of Scotland:** [English, German, and Latin names of edible British fishes and mollusks.] *Bulletin*, 1885 (1885), vol. V, p. 80-81.
- Fuller, Thomas:** Carp in England in the seventeenth century. *Bulletin*, 1884 (1884), vol. IV, p. 14. F18-204

ASIA.

INDIA.

- Day, Francis:** The fisheries of India. Report, 1883 (1885), p. 383-413. F17-32

JAPAN.

- Baldwin, Charles H.:** Notes on the fish and fisheries of Japan. *Bulletin*, 1884 (1884), vol. IV, p. 352. F18-330
- Jordan, David Starr, and Edwin Chapin Starks:** List of fishes dredged by the steamer *Albatross* off the coast of Japan in the summer of 1900, with descriptions of new species and a review of the Japanese Macrouridæ. *Bulletin*, 1902 (1904), vol. XXII, p. 577-630, illus., 8 pl. *Doc. 551 issued Aug. 13, 1904.* F12-51

OCEANICA.

AUSTRALIA.

- Dannevig, G. M.:** Salmonidæ in Australia. *Bulletin*, 1885 (1885), vol. V, p. 440-442. F18-502
- Whitcombe, W. P.:** Notes on the acclimatization of fish in Victoria, Australia. *Bulletin*, 1884 (1884), vol. IV, p. 31-32. F18-209

HAWAIIAN ISLANDS.

- Gilbert, Charles Henry:** The deep-sea fishes of the Hawaiian Islands. *Bulletin*, 1902 (1905), vol. XXIII, pt. II, p. 575-713, illus., pl. 66-101. *Doc. 582 issued Aug. 5, 1905.* F11-390
- Jenkins, Oliver Peebles:** Descriptions of new species of fishes from the Hawaiian Islands, belonging to the families of Labridæ and Scaridæ. *Bulletin*, 1899 (1901), vol. XIX, p. 45-65, illus. *Doc. 433 issued Aug. 30, 1900.* F12-45
- Descriptions of fifteen new species of fishes from the Hawaiian Islands. *Bulletin*, 1899 (1901), vol. XIX, p. 387-404, illus. *Doc. 456 issued June 16, 1901.* F20-127

- Jenkins, Oliver Peebles:** Report on collections of fishes made in the Hawaiian Islands, with descriptions of new species. Bulletin, 1902 (1903), vol. XXII, p. 417-511, illus., IV pl. *Doc. 534 issued July 23, 1903.* F12-73
- Jordan, David Starr:** The fishes and fisheries of the Hawaiian Islands. A preliminary report, by David Starr Jordan and Barton Warren Evermann. Commercial fisheries of the Hawaiian Islands, by John Nathan Cobb. Report, 1901 (1902), p. 353-499, pl. 21-27. *Doc. 504 issued Oct. 23, 1902.* F11-27
- Jordan, David Starr, and Barton Warren Evermann:** Descriptions of new genera and species of fishes from the Hawaiian Islands. Bulletin, 1902 (1904), vol. XXII, p. 161-208. *Doc. 523 issued Apr. 11, 1903.* F12-63
- Descriptions of a new genus and two new species of fishes from the Hawaiian Islands. Bulletin, 1902 (1904), vol. XXII, p. 209-210. *Doc. 525 issued July 9, 1903.* F12-64
- The shore fishes of the Hawaiian Islands, with a general account of the fish fauna. (Bibliography: p. 28-30.) Bulletin, 1903 (1905), vol. XXIII, pt. 1, p. 1-574, illus., LXXIII pl. (partly col.) fold. map. *Doc. 577 issued July 29, 1905.* 5-36162
- Jordan, David Starr, and John O. Snyder:** Notes on fishes of Hawaii, with descriptions of new species. Bulletin, 1906 (1907), vol. XXVII, p. 205-218, illus., pl. XII-XIII, col. *Doc. 623 issued Oct. 25, 1907.* 7-35378
- Snyder, John Otterbein:** A catalogue of the shore fishes collected by the steamer *Albatross* about the Hawaiian Islands in 1902. Bulletin, 1902 (1904), vol. XXII, p. 513-538, 12 pl. *Doc. 546 issued Jan. 19, 1904.* F12-74

PHILIPPINE ISLANDS.

- Evermann, Barton Warren, and Alvin Seale:** Fishes of the Philippine Islands. (Bibliography: p. 107-110.) Bulletin, 1906 (1907), vol. XXVI, p. 49-110, illus. *Doc. 607 issued Jan. 11, 1907.* F11-61
- Jordan, David Starr, and Robert Earl Richardson:** Fishes from islands of the Philippine Archipelago. Bulletin, 1907 (1908), vol. XXVII, p. 233-287, illus. *Doc. 640 issued Dec. 16, 1908.* 8-35768
- Jordan, David Starr, and Alvin Seale:** Fishes of the islands of Luzon and Panay. Bulletin, 1906 (1907), vol. XXVI, p. 3-48, illus. *Doc. 606 issued Jan. 11, 1907.* F11-60
- Smith, Hugh McCormick:** Notes on five food fishes of Lake Buhi, Luzon, Philippine Islands. Bulletin, 1901 (1902), vol. XXI, p. 167-171, illus., pl. XXII. *Doc. 501 issued 1902.* F12-277

SAMOA.

- Jordan, David Starr:** The fishes of Samoa. Descriptions of the species found in the archipelago, with a provisional check-list of the fishes of Oceania. ("Glossary of principal words composing native names of Samoan fishes, by W. E. Safford": p. 446-455.) Bulletin, 1905 (1906), vol. XXV, p. 173-455, XXX p., illus., pl. XXXIII-LIII (partly col.). *Doc. 605 issued Dec. 15, 1906.* F11-70
- Safford, William Edward:** [Glossary of principal words composing native names of Samoan fishes.] Bulletin, 1905 (1906), vol. XXV, p. 446-455.

OCEANS.

ATLANTIC OCEAN.

- U. S. Bureau of Fisheries:** List of collections made by the fishing vessels of Gloucester and other New England seaports for the U. S. Fish commission, from 1877 to 1880. The fishes included in the list were identified by G. Brown Goode and T. H. Bean. Report, 1879 (1882), p. 787-835. F17-23

BERING SEA.

- Gilbert, Charles Henry:** The ichthyological collections of the U. S. Fish commission steamer *Albatross* during the years 1890 and 1891. Report, 1893 (1895), p. 393-476, pl. 20-35. *Doc. 326 issued Dec. 8, 1896.* F16-222
- Gilbert, Charles Henry, and Charles Victor Burke:** Fishes from Bering Sea and Kamchatka. Bulletin, 1910 (1912), vol. XXX, p. 31-96, illus. *Doc. 754 issued May 6, 1912.* F12-93

PACIFIC OCEAN.

- Evermann, Barton Warren, and Seth Eugene Meek:** A report upon salmon investigations in the Columbia River basin and elsewhere on the Pacific coast in 1896. Bulletin, 1897 (1898), vol. XVII, p. 15-84, illus., 2 pl. *Doc. 352 issued Jan. 6, 1898.* F12-241
- Gilbert, Charles Henry:** The ichthyological collections of the U. S. Fish commission steamer *Albatross* during the years 1890 and 1891. Report, 1893 (1895), p. 393-476, pl. 20-35. *Doc. 326 issued Dec. 8, 1896.* F16-222
- Report on fishes obtained by the steamer *Albatross* in the vicinity of Santa Catalina Island and Monterey Bay. Report, 1898 (1899), p. 23-29. *Doc. 400 issued Mar. 22, 1899.* F11-112
- Jordan, David Starr, and R. C. McGregor:** List of fishes collected at Revillagigedo Archipelago and neighboring islands. Report, 1898 (1899), p. 271-284. *Doc. 404 issued Mar. 22, 1899.* F11-116

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GENERAL WORK OF BUREAU.

- Evermann, Barton Warren:** Report on the establishment of fish-cultural stations in the Rocky Mountain region and Gulf States. (1. A reconnaissance of the streams and lakes of western Montana and northwestern Wyoming. 2. A report upon investigations made in Texas in 1891.) Bulletin, 1891 (1893), vol. XI, 90 p., XXXVI pl. (part. fold.). *Doc. 205 issued May 25, 1892.* F11-345
- Goode, George Brown:** The status of the United States Fish commission in 1884. A review of what has been accomplished in fish-culture, and the investigation of the American fisheries. Report, 1884 (1886), p. 1139-1180. *Doc. 75 issued Aug. 9, 1884.* F11-272
- McDonald, Marshall:** Memorandum of some results of fish-culture already attained. Bulletin, 1884 (1884), vol. IV, p. 261-262. F18-306
- Report of the division of distribution of the United States Fish commission for the year 1883. Report, 1883 (1885), p. 1051-1087, tables. F17-38
- Report on the distribution of fish and eggs by the U. S. Fish commission for the season of 1885-86. Bulletin, 1886 (1887), vol. VI, p. 385-394. F18-617
- Report of the distribution of fish and eggs by the United States Fish commission from January 1, 1886, to June 30, 1887. Report, 1886 (1889), p. 833-842. F12-183
- Address of the chairman of the general committee of the World's Fisheries Congress. Bulletin, 1893 (1894), vol. XIII, p. 15-16. F11-321
- Page, William F.:** The most recent methods of hatching fish eggs. Bulletin, 1888 (1890), vol. VIII, p. 207-218. Nos. I-X.]
- Smiley, Charles Wesley:** [Tables of distribution of fish and fish-eggs. Report, 1881 (1884), p. LXIII-LXVI. A statistical review of the production and distribution to public waters of young fish, by the U. S. Fish commission, from its organization in 1871 to the close of 1880. Report, 1881 (1884), p. 825-915 incl. tables. F16-345
- Index to the distribution, made under the auspices of the United States Fish commission, of fish in public waters of the United States, during the decade ending 1880. Report, 1881 (1884), p. 917-1035. F16-344
- Titcomb, John W.:** Fish-cultural practices in the United States Bureau of Fisheries. Bulletin, 1908 (1910), vol. XXVIII, p. 697-757, pl. LXXVII-LXXXIX, diagrs. *Doc. 675 issued Apr. 25, 1910.* 10-35554
- U. S. Bureau of Fisheries:** Directions for using blanks for recording the propagation and distribution of fish. Report, 1873-74 and 1874-75 (1876), p. 563-568. F16-30
- Memorandum of some results of the artificial propagation and planting of fish (German whitefish, Maine salmon, rainbow trout, shad, carp, catfish) due mainly to the efforts of the U. S. Fish commission. Bulletin, 1881 (1882), vol. I, p. 208-215, pl. XVII. F18-41
- Report of the distribution of fish and eggs by the U. S. Fish commission from July 1, 1887, to June 30, 1888. Report, 1887 (1891), p. 363-370. F16-85
- Observations upon fishes and fish-culture. Bulletin, 1890 (1892), vol. X, p. 49-61. *Doc. 188 issued June 20, 1892.* F12-135
- Report of distribution of fish and eggs from July 1, 1888, to June 30, 1889. Report, 1888-89 (1892), p. 379-394. *Doc. 179 issued Dec. 3, 1892.* F12-221
- Report on the propagation and distribution of food-fishes. Report, 1893 (1895), p. 78-138; 1895 (1896), p. 6-72; 1896 (1898), p. 11-92; 1897 (1898), p. XVIII-XC; 1898 (1899), p. XXXI-CXXII; 1899 (1900), p. XXXV-CXVIII, pl. VIII-XXIX; 1900 (1901), p. 25-118; 1901 (1902), p. 21-110, illus., pl. 4-5; 1902 (1904), p. 22-110; 1903 (1905), p. 29-74; 1904 (1905), p. 25-80; 1905 (1907), 64 p., *Doc. 602 issued Oct. 1, 1906;* 1906 (1908), 78 p., *Doc. 613 issued Mar. 12, 1907;* 1907 (1909), 78 p., *Doc. 630 issued Feb. 4, 1908;* 1908 (1910), 93 p., *Doc. 644 issued Mar. 6, 1909;* 1909 (1911), 103 p., *Doc. 728 issued Feb. 12, 1910;* 1910 (1911), 112 p., *Doc. 740 issued June 1, 1911;* 1912 (1914), 108 p., *Doc. 770 issued Mar. 31, 1913;* 1913 (1914), 122 p., *Doc. 794 issued June 13, 1914;* 1914 (1915), 114 p., *Doc. 808 issued Feb. 23, 1915;* 1915 (1917), 138 p., *Doc. 828 issued Mar. 4, 1916;* 1916 (1917), 111 p., *Doc. 837 issued Feb. 26, 1917;* 1917 (1919), 99 p., *Doc. 846 issued Feb. 1, 1918;* 1918 (1920), 82 p., *Doc. 863 issued Oct. 11, 1919;* 1919 (1921), 76 p., *Doc. 878 issued Sept. 9, 1920.*
- A manual of fish-culture, based on the methods of the United States Commission of fish and fisheries. (Contents.—Introduction, by J. J. Brice. The salmon of the Pacific coast, by L. Stone. The Atlantic and landlocked salmon, by C. G. Atkins. The rainbow trout, by G. A. Seagle. The brook trout, by F. N. Clark. The lake trout, by F. N. Clark. The whitefish, by J. J. Stranahan. The shad, by S. G. Worth. The black basses, crappies, and rock bass, by W. F. Page.

The miscellaneous fresh-water fishes. The cod. The common mackerel. The flatfish or winter flounder. Miscellaneous salt-water fishes. The American lobster, by H. M. Smith. The transportation of fish and fish eggs, by J. F. Ellis. Spawning seasons of fishes propagated, character of fish eggs, period of incubation, etc. Notes on the edible frogs of the United States and their artificial propagation, by F. M. Chamberlain. Oysters and methods of oyster-culture, by H. F. Moore. Notes on clam-culture.) Report, 1897 (1898), 340 p., illus., pl. 1-62, I-XVIII. *Doc. 345 issued Nov. 1, 1897.* F11-119

U. S. Bureau of Fisheries: A manual of fish-culture, based on the methods of the U. S. Commission of fish and fisheries, with chapters on the cultivation of oysters and frogs. Revised edition, 340 p., illus., pl. 1-64, I-XVIII. [Additions—The graylings, by J. A. Henshall. The pike perch or wall-eyed pike, by J. J. Stranahan.] *Doc. 345 issued Oct. 17, 1900.* F11-119

U. S. Commissioner of Fisheries: (Propagation and distribution of food fishes.) Report, 1872 and 1873 (1874), p. XVI-XXXI; 1873-1875 (1876), p. XV-XLVI; 1875-76 (1878), p. 8-50; 1877 (1879), p. 18-48; 1878 (1880), p. XXV-XLV; 1879 (1882), p. XXVII-LI; 1880 (1883), p. XXVII-XXXVI; 1881 (1884), p. XLII-LVI; 1882 (1884), p. LV-LXXXIV; 1883 (1885), p. LXXI-XCI; 1884 (1886), p. XLVI-LXVI; 1885 (1887), p. LXXII-CIV; 1886 (1889), p. XXVII-XLIV; 1887 (1891), p. XIII-LII; 1888-89 (1892), p. XVIII-XXVII; 1889-1891 (1893), p. 10-60; 1892 (1894), p. XIV-LXVIII; 1893 (1895), p. 14-16; 1894 (1896), p. 20-80.

WORK OF BUREAU'S STATIONS.

GENERAL.

U. S. Commissioner of Fisheries: [Fish-cultural stations operated, 1913-1919.] Report, 1913 (1914), p. 7-10; 1914 (1915), p. 39-42; 1915 (1917), p. 7-10; 1916 (1917), p. 8-11; 1917 (1919), p. 53-55; 1918 (1920), p. 10-11; 1919 (1921), p. 31-33.

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U. S. Commissioner of Fisheries: [Afognak Bay, River, and Lake, set aside by proclamation of December, 1892, for use of the U. S. Commission of fish and fisheries.] Report, 1893 (1895), p. 8.

—— [Completion of station.] Report, 1908 (1910), p. 16.

LITUIK LAKE.

U. S. Commissioner of Fisheries: [Site selected, materials and supplies purchased.] Report, 1907 (1909), p. 9.

QUADRA BAY.

U. S. Commissioner of Fisheries: [Establishment of field station at Quadra Bay.] Report, 1915 (1917), p. 14.

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U. S. Commissioner of Fisheries: [Recommendation for site.] Report, 1905 (1907), p. 18-19.

—— [Establishment of hatchery on Lake McDonald.] Report, 1906 (1908), p. 11.

—— [Completion of station.] Report, 1907 (1909), p. 9.

ARKANSAS: MAMMOTH SPRINGS.

U. S. Commissioner of Fisheries: [Selection of site.] Report, 1903 (1905), p. 12.

—— [Purchase of site.] Report, 1904 (1905), p. 14.

CALIFORNIA.

BAIRD.

Stone, Livingston: Account of operations at the McCloud River fish-breeding stations of the U. S. Fish commission, from 1872-1882, inclusive. Bulletin, 1882 (1883), vol. II, p. 217-236. F12-359

—— History of operations at the fish-hatching stations on the McCloud River, California, from the beginning, August, 1872, to October, 1884. Bulletin, 1885 (1885), vol. V, p. 28-31. F18-367

—— Report of operations at the United States salmon-hatching establishment on the McCloud River, California. Report, 1872 and 1873 (1874), p. 168-215; 1873-74

and 1874-75 (1876), p. 437-478; 1875-76 (1878), p. 921-958, illus.; 1877 (1879), p. 797-810; 1878 (1880), p. 741-770; 1879 (1882), p. 695-708, 715-720; 1880 (1883), p. 597-613, 615-621; 1881 (1884), p. 1063-1078, 1079-1083; 1882 (1884), p. 839-850, 851-855; 1883 (1885), p. 989-1006; 1884 (1886), p. 169, 171-176; 1885 (1887), p. 131-140; 1886 (1889), p. 737-745.

Stone, Livingston: Report of operations in California in 1873: Report, 1873-74 and 1874-75 (1876), p. 377-429. F16-21

U. S. Commissioner of Fisheries: [Operations at McCloud River.] Report, 1873-74 and 1874-75 (1876), p. XXII-XXX; 1875-76 (1878), p. 24; 1877 (1879), p. 33-34; 1880 (1883), p. XXIX-XXX; 1882 (1884), p. XXV, LXX-LXXI; 1883 (1885), p. XXIII, LXXXI-LXXXIII; 1884 (1886), p. XVI; 1885 (1887), p. XXIII; 1886 (1889), p. XLI; 1887 (1891), p. XIX; 1888-89 (1892), p. XXXV; 1889-1891 (1893), p. 49-50; 1892 (1894), p. LVII-LVIII; 1893 (1895), p. 117-118; 1894 (1896), p. 49; 1895 (1896), p. 44-45; 1896 (1898), 66-67; 1897 (1898), p. LXVI-LXVII; 1898 (1899), p. XCIII; 1899 (1900), p. XCVI-XCVIII, pl. XXII; 1900 (1901), p. 85-90; 1901 (1902), p. 74-77.

[Act of March 2, 1889, appropriates funds for quarters.] Report, 1889-1891 (1893), p. 49.

BATTLE CREEK.

U. S. Commissioner of Fisheries: [Establishment of station.] Report, 1897 (1898), p. LXVII-LXIX.

[Act, 1898, authorizing permanent station.] Report, 1899 (1900), p. XXIX.

[Operations at Battle Creek.] Report, 1898 (1899), p. XCX-XCVII; 1899 (1900), p. XCVIII-C; 1900 (1901), p. 90-91; 1902 (1904), p. 77-78.

CROOKS CREEK.

U. S. Commissioner of Fisheries: [Establishment of Crooks Creek station.] Report, 1879 (1882), p. XXX-XXXI.

[Operations at Crooks Creek station.] Report, 1880 (1883), p. XXX.

FORT GASTON.

U. S. Commissioner of Fisheries: [Operations at Fort Gaston station.] Report; 1889-91 (1893), p. 51-52; 1892 (1894), p. LVIII-LIX; 1893 (1895), p. 119-120; 1894 (1896), p. 49-50; 1895 (1896), p. 46-47; 1896 (1898), p. 67-68; 1897 (1898), p. LXXIII; 1898 (1899), p. XCVII-XCVIII.

KORBEL.

U. S. Commissioner of Fisheries: [Operations at Korbel.] Report, 1894 (1896), p. 50; 1895 (1896), p. 47-48.

MILL CREEK.

U. S. Commissioner of Fisheries: [Operations of station.] Report, 1902 (1904), p. 74-75.

COLORADO: LEADVILLE.

U. S. Commissioner of Fisheries: [Operations at Leadville.] Report, 1888-89 (1892), p. XXXV; 1889-1891 (1893), p. 47-49; 1892 (1894), p. LV-LVII; 1893 (1895), p. 114-117; 1894 (1896), p. 47-48; 1895 (1896), p. 42-44; 1896 (1898), p. 62-65; 1897 (1898), p. LXIII-LXV; 1898 (1899), p. LXXXVIII-XC; 1899 (1900), p. LXXXIX-XCI; 1900 (1901), p. 79-81; 1901 (1902), p. 69-71; 1902 (1904), p. 65-67.

DISTRICT OF COLUMBIA.

ARSENAL.

J. S. Commissioner of Fisheries: [Use of ice pond for carp.] Report, 1878 (1880), p. XLII; 1879 (1882), p. XXXVII; 1880 (1883), p. XIX; 1881 (1884), p. XVII; 1882 (1884), p. XXV; 1883 (1885), p. XXVI; 1884 (1886), p. XVII; 1885 (1887), p. XXV; 1886 (1889), p. XLIII.

CENTRAL STATION.

Brown, J. E.: [Carp, goldfish, ides, and catfish handled at Central station.] Bulletin, 1884 (1884), vol. IV, p. 309.

McDonald, Marshall: Report of operations at Central station, United States Fish commission. Report, 1882 (1884), p. 879-890, illus., pls.; 1883 (1885), p. 1017-1034, incl. tables, diag. F16-315

U. S. Commissioner of Fisheries: [Brief mention.] Report, 1881 (1884), XVI-XVII; 1882 (1884), p. XXV; 1883 (1885), p. XXVI; 1884 (1886), p. XVII; 1885 (1887), p. XXIV; 1887 (1891), p. XXVII-XXVIII; 1888-89 (1892), p. XXVI-XXVIII; 1889-1891 (1893), p. 33-35; 1892 (1894), p. XXXV-XXXVII; 1893 (1895), p. 93-96; 1894 (1896), p. 31-33; 1895 (1896), p. 26-27; 1896 (1898), p. 39-40; 1897 (1898), p. XLVII-XLVIII; 1898 (1899), p. LXII-LXIII; 1899 (1900), p. LXII; 1900 (1901), p. 53; 1901 (1902), p. 46-47; 1902 (1904), p. 44-45.

FISH PONDS.

U. S. Commissioner of Fisheries: [Use of Monument lot authorized by Congress.] Report, 1876-77 (1879), p. 43.

— [Operations at Fish Ponds.] Report, 1878 (1880), p. XL-XLI; 1879 (1882), p. XXXVI; 1880 (1883), p. XIX; 1881 (1884), p. L-LII; 1882 (1884), p. XXV; 1883 (1885), p. XXVI; 1884 (1886), p. LXII-LXIV; 1885 (1887), p. XXIV-XXV; 1886 (1889), p. XXXVIII; 1887 (1891), p. XXVII; 1888-89 (1892), p. XXVIII; 1889-1891 (1893), p. 35; 1892 (1894), p. XXXVII-XXXIX; 1893 (1895), p. 96-97; 1894 (1896), p. 35-36; 1895 (1896), p. 24-25; 1896 (1898), p. 42-44; 1897 (1898), p. XLIX-LI; 1898 (1899), p. LXIV-LXXII; 1899 (1900), p. LXIII-LXV; 1900 (1901), p. 52-53; 1901 (1902), p. 45; 1902 (1904), p. 43.

NAVY YARD.

U. S. Bureau of Fisheries: [Propagation and distribution of shad (*Alosa sapidissima*) in the spring of 1880.] Report, 1880 (1883), p. 655-657.

Wood, William Maxwell: Report of the operations of the Navy Yard shad-hatching station in Washington, D. C., during the season of 1882. Report, 1882 (1884), p. 891-897, pls. F16-321

GEORGIA: COLD SPRING.

U. S. Bureau of Fisheries: [Site donated.] Report, 1899 (1900), p. XXVIII-XXIX.

ILLINOIS: QUINCY.

U. S. Bureau of Fisheries: [Operations at Quincy.] Report, 1888-89 (1892), p. XXX-XXXI; 1889-1891 (1893), p. 44; 1892 (1894), p. XLIX-L; 1893 (1895), p. 108-110; 1894 (1896), p. 45; 1895 (1896), p. 37-38; 1896 (1898), p. 57-59; 1897 (1898), p. LVII; 1898 (1899), p. LXXXV; 1899 (1900), p. LXXXII-LXXXIII; 1900 (1901), p. 71; 1901 (1902), p. 62; 1902 (1904), p. 59.

IOWA.

MANCHESTER.

U. S. Bureau of Fisheries: [Operations at Manchester.] Report, 1897 (1898), p. LVII-LVIII; 1898 (1899), p. LXXXII-LXXXV; 1899 (1900), p. LXXXIII-LXXXV; 1900 (1901), p. 72-75; 1901 (1902), p. 62-64; 1902 (1904), p. 60-62.

NORTH M'GREGOR.

U. S. Bureau of Fisheries: [Establishment of rescue station at North McGregor.] Report, 1904 (1905), p. 39.

KENTUCKY: LOUISVILLE.

U. S. Commissioner of Fisheries: [Selection of site.] Report, 1912 (1914), p. 64.
— [Donation of site by State.] Report, 1913 (1914), p. 69.

LOUISIANA: ATCHAFALAYA.

U. S. Commissioner of Fisheries: [Brief mention.] Report, 1918 (1920), p. 10.

MAINE.

Atkins, Charles G.: Memoranda relative to inclosures for the confinement of salmon, drawn from experience at Bucksport, Penobscot River, Maine. Bulletin, 1884 (1884), vol. IV, p. 170-174. F13-92

BOOTHBAY HARBOR.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1902 (1904), p. 16.
 ——— Work of the Bureau of fisheries and its fish-cultural station at Boothbay Harbor,
 Me. 1917. [Occasional papers.] F17-186

BUCKSPORT.

- U. S. Commissioner of Fisheries:** [Operations at Bucksport.] Report, 1872-73
 (1874), p. XVIII-XIX; 1873-1875 (1876), p. XXX; 1875-76 (1878), p. 25;
 1877 (1879), p. 36; 1878 (1880), p. XXIX; 1879 (1882), p. XXXI; 1880 (1883),
 p. XXXI; 1881 (1884), p. XLVII; 1882 (1884), p. XXIV; 1883 (1885), p. LXXX;
 1884 (1884), p. XVI; 1885 (1887), p. XXIII; 1886 (1889), p. XL; 1887 (1891),
 p. XVIII.

CRAIG BROOK.

- Atkins, Charles G.:** Sketch of the Penobscot salmon-breeding establishment.
 Bulletin, 1884 (1883), vol. II, p. 373-378. F12-374
 ——— Report on the propagation of Penobscot salmon in 1886-87. Report, 1888-89
 (1892), p. 747-749. F20-161
U. S. Commissioner of Fisheries: [Operations at Craig Brook.] Report, 1883
 (1885), p. 79-82; 1889-1891 (1893), p. 13-19; 1892 (1894), p. XVIII-XXI; 1893
 (1895), p. 79-82; 1894 (1896), p. 21-23; 1895 (1896), p. 12-15; 1896 (1898), p.
 17-21; 1897 (1898), p. XXI-XXV; 1898 (1899), p. XLII-XLIV; 1899 (1900), p.
 XLV-LI; 1900 (1901), p. 36-38; 1901 (1902), p. 29-31; 1902 (1904), p. 29-31.
 ——— [Establishment of permanent station at Craig Brook.] Report, 1888-1889
 (1892), p. XXII-XXIII.

GRAND LAKE STREAM.

- Atkins, Charles G.:** Report on the collection and distribution of schoodic salmon
 eggs. Report, 1877 (1879), p. 817-846, pl.; 1880 (1883), p. 633-665, incl. tables;
 1882 (1884), p. 863-871; 1884 (1886), p. 181-187; 1885 (1887), p. 145-156; 1886
 (1889), p. 751-759.
 ——— Sketch of the schoodic salmon-breeding establishment. Bulletin, 1882 (1883),
 vol. II, p. 379-382. F12-375
 ——— Report on the schoodic salmon work of 1884-1885. Bulletin, 1885 (1885), vol.
 V, p. 323-324.
U. S. Commissioner of Fisheries: [Operations at Grand Lakes Stream.] Report,
 1875-76 (1878), p. 25-26; 1876-77 (1879), p. 37-38; 1878 (1880), p. XXXII-XXXV;
 1879 (1882), p. XXXII-XXXIII; 1880 (1883), p. XXXI; 1881 (1884), p. XLVII-
 XLVIII; 1882 (1884), p. LXIX; 1883 (1885), p. LXXXI; 1884 (1886), p. LVI;
 1885 (1887), p. LXXXVI-LXXXVII; 1886 (1889), p. XXXV; 1887 (1891), p.
 XVII-XVIII; 1888-89 (1892), p. XXI-XXII; 1889-1891 (1893), p. 14-15; 1892
 (1894), p. XVII; 1893 (1895), p. 79.

GREEN LAKE.

- Atkins, Charles G.:** Report on the propagation of Penobscot salmon in 1879-80.
 Report, 1879 (1882), p. 721-731, incl. tables.
 ——— Sketch of the Penobscot salmon-breeding establishment. Bulletin, 1882
 (1883), vol. II, p. 373-378. F12-374
 ——— Report on the propagation of Penobscot salmon in 1884-85. Report, 1884
 (1886), p. 177-179, tables.
U. S. Commissioner of Fisheries: [Operations at Green Lake.] Report, 1889-1891
 (1893), p. 20-22; 1892 (1894), p. XXI-XXII; 1893 (1895), p. 82-86; 1894 (1896),
 p. 24-26; 1895 (1896), p. 9-12; 1896 (1898), p. 14-16; 1897 (1898), p. XIX-XX;
 1898 (1899), p. XL-XLII; 1899 (1900), p. XLIII-XLV; 1900 (1901), p. 34-35;
 1901 (1902), p. 28-29; 1902 (1904), p. 26-29.

MARYLAND.

BRYANS POINT.

U. S. Commissioner of Fisheries: [Selection of site.] Report, 1892 (1894), p. XXXI-XXXV.

— [Operations at Bryans Point.] Report, 1893 (1895), p. 92-93; 1894 (1896), p. 30-31; 1895 (1896), p. 28-29; 1897 (1898), p. XLIV-XLV; 1898 (1899), p. LXI-LXII; 1899 (1900), p. LXII-LXIII; 1900 (1901), p. 51; 1901 (1902), p. 44; 1902 (1904), p. 41-42.

DRUID HILL PARK.

U. S. Commissioner of Fisheries: [Use of Druid Hill Park.] Report, 1877 (1879), p. 42-43; 1878 (1880) p. XL; 1879 (1882), p. XXXVII; 1880 (1883), p. XIX.

FORT WASHINGTON.

Babcock, William C.: Report of shad operations conducted at Fort Washington, Md. Report, 1883 (1885), p. 1035-1042 incl. tables; 1884 (1886), p. 189-197 incl. tables, pl. F11-35

McDonald, Marshall: Report of shad propagation on the Potomac River during the season of 1886. Report, 1886 (1889), p. 815-817.

U. S. Commissioner of Fisheries: [Operations at Fort Washington.] Report, 1883 (1885), p. XXVI; 1884 (1886), p. LVIII-LIX; 1885 (1887), p. LXXXIX; 1886 (1889), p. XXXVI; 1887 (1891), p. XXV; 1888-89 (1892), p. XXVI; 1889-1891 (1893), p. 32-33.

HAVRE DE GRACE.

Clark, Frank Nelson: Notes on experiments in penning shad and taking eggs at Battery station, Havre de Grace, Md., in 1883. Report, 1883 (1885), p. 1045-1050. F17-37

Grabill, L. R.: Report of operations at the shad-hatching station on Battery Island, near Havre de Grace, Md., during the season of 1884. Report, 1884 (1886), p. 807-814 incl. tables. F17-36

Hamlen, William: Report of operations at the Battery Island station, Havre de Grace, Md., during the season of 1884. Report, 1884 (1886), p. 199-208 incl. tables.

Low, W. F.: Report of operations at the Havre de Grace, Md., shad-hatching station during the season of 1883. Report, 1883 (1885), p. 1043-1044 incl. tables.

Ravenel, William de Chastignier: [Table of temperatures and densities at St. Jerome Station, Havre de Grace, Md., for the year 1886.] Report, 1886 (1889), p. 768-777.

Taylor, Fred W.: Analysis of artesian-well water from the shad-hatching station at Havre de Grace, Md. Bulletin, 1883 (1883), vol. III, p. 348. F18-145

U. S. Commissioner of Fisheries: [Operations at Battery Island.] Report, 1878 (1880), p. XXXVI; 1879 (1882), p. XXXV; 1880 (1883), p. XXXII-XXXIII; 1881 (1884), p. L; 1882 (1884), p. LXXIV-LXXVII; 1883 (1885), p. LXXXIV-LXXXV; 1884 (1886), p. LVIII-LIX; 1885 (1887), p. XCI; 1886 (1889), p. LXII; 1887 (1891), p. XXV-XXVI; 1888-89 (1892), p. XXV-XXVI; 1889-1891 (1893), p. 30-31; 1892 (1894), p. XXIX-XXX; 1893 (1895), p. 91; 1894 (1896), p. 29-30; 1895 (1896), p. 22-24; 1896 (1898), p. 37-39; 1897 (1898), p. XLII-XLIV; 1898 (1899), p. LIX-LXI; 1899 (1900), p. LX-LXII; 1900 (1901), p. 49-51; 1901 (1902), p. 43; 1902 (1904), p. 40-41.

— Report of shad-hatching operations at Battery station, Havre de Grace, Md., season of 1885 and 1887. Bulletin, 1885 (1885), vol. V, p. 401-410; 1886 (1886), vol. VI, p. 361-368; 1887 (1887), vol. VII, p. 95-100 incl. tables. F18-613

— [Closure of fish hatchery at Havre de Grace, Md.] Report, 1917 (1919), p. 76-78.

NORTH EAST RIVER.

U. S. Commissioner of Fisheries: [Operations.] Report, 1881 (1884), p. L; 1882 (1884), p. LXXVI.

MASSACHUSETTS.

BERKSHIRE.

U. S. Commissioner of Fisheries: [Donation to U. S. Bureau of fisheries of trout-hatching plant by Mrs. Mary A. Scully.] Report, 1917 (1919), p. 55.

GLOUCESTER.

U. S. Commissioner of Fisheries: [Operations at Gloucester.] Report, 1878 (1880), p. XLII-XLIV; 1879 (1882), p. XXXVII-XXVIII; 1887 (1891), p. XV-XVI; 1888-89 (1892), p. XXIII-XXIV; 1889-1891 (1893), p. 22-24; 1892 (1894), p. XXII; 1893 (1895), p. 86-87; 1894 (1896), p. 26-27; 1895 (1896), p. 17-18; 1896 (1898), p. 24-26; 1897 (1898), p. XXX-XXXVIII; 1898 (1899), p. L-LII; 1899 (1900), p. LXXX-LV; 1900 (1901), p. 45-47; 1901 (1902), p. 35-36; 1902 (1904), p. 37-38.

WOODS HOLE.

U. S. Commissioner of Fisheries: [Operations at Woods Hole.] Report, 1884 (1886), p. XV; 1885 (1887), p. LXXVIII; 1886 (1889), p. XXXIX-XL; 1887 (1891), p. XVI-XVII; 1888-89 (1892), p. XXIV-XXV; 1889-1891 (1893), p. 24-28; 1892 (1894), p. XXIV-XXVII; 1893 (1895), p. 88-90; 1894 (1896), p. 27-29; 1895 (1896), p. 18-22; 1896 (1898), p. 27-31; 1897 (1898), p. XXXVI-XXXVII; 1898 (1899), p. LII-LXI; 1899 (1900), p. LVI-LVIII; 1900 (1901), p. 45-47; 1901 (1902), p. 36-38; 1902 (1904), p. 36-37.

— [Selection and description of site.] Report, 1881 (1884), p. XXXVII-XL.

— [Congressional action in regard to the Woods Hole station.] Report, 1882 (1884), p. LXI.

— [Permanent sea-coast station.] Report, 1882 (1884), p. XXXVII-XLI.

— [Description of Woods Hole.] Report, 1883 (1885), p. LIII-LVI.

MICHIGAN.

Clark, Frank Nelson: Report of operations at the Michigan stations of the U. S. Fish commission for the year 1886-87. Report, 1886 (1889), p. 729-736.

ALPENA.

Clark, Frank N.: Description of the U. S. fish hatchery at Alpena, Michigan. Bulletin, 1882 (1883), vol. II, p. 388.

— [Report on operations at Alpena.] Report, 1880 (1883), p. 568-572; 1882 (1884), p. 815-817; 1883 (1885), p. 978-979; 1884 (1886), p. 151-167; 1885 (1887), p. 121-129.

— [Fish-cultural operations at Alpena.] Report, 1894 (1896), p. 42-43.

U. S. Commissioner of Fisheries: [Operations at Alpena.] Report, 1883 (1885), p. XXV; 1884 (1886), p. XVI; 1885 (1887), p. XXIII; 1886 (1889), p. XLI; 1887 (1891), p. XXII; 1888-89 (1892), p. XXXII; 1889-1891 (1893), p. 42; 1892 (1894), p. XLVI-XLVII; 1895 (1896), p. 35-36; 1896 (1898), p. 54-55; 1897 (1898), p. LVI-LVII; 1898 (1899), p. LXXXI; 1899 (1900), p. LXXX-LXXXI.

— [Establishment of station.] Report, 1882 (1884), p. XXV.

Worth, Stephen G.: [Operations at Alpena.] Report, 1893 (1895), p. 105-106.

CHARLEVOIX.

U. S. Commissioner of Fisheries: [Substation established.] Report, 1903 (1905), p. 13.

NORTHVILLE.

Clark, Frank Nelson: Account of operations at the Northville fish-hatching station of the United States Fish commission, from 1874 to 1882, inclusive. Bulletin, 1882 (1883), vol. II, p. 355-372, illus. F12-373

— Report of operations at Northville and Alpena. Report, 1880 (1883), p. 553-596; 1881 (1884), p. 1037-1062; 1882 (1884), p. 813-838; 1883 (1885), p. 975-988; 1884 (1886), p. 151-167; 1885 (1887), p. 121-129; 1886 (1889), p. 729-736.

— Report on distribution of fish and eggs from Northville and Alpena stations for 1885-86. Bulletin, 1886 (1887), vol. VI, p. 395-399. F18-618

U. S. Commissioner of Fisheries: [Purchase of station and all facilities from Clark.] Report, 1880 (1883), p. XXVII.

— [Operations at Northville.] Report, 1881 (1884), p. XLIV; 1882 (1884), p. LXIV-LXVIII; 1883 (1885), p. LXXVI-LXXVII; 1884 (1886), p. LII-LIII; 1885 (1887), p. LXXVII-LXXXIX, LXXXII; 1886 (1889), p. XXXI, XXXII, XXXIII; 1887 (1891), p. XX-XXII; 1888-89 (1892), p. XXXI-XXXII; 1889-1891 (1893), p. 39-42; 1892 (1894), p. XLIII-XLVI; 1893 (1895), p. 103-105; 1894 (1896), p. 40-42; 1895 (1896), p. 33-35; 1896 (1898), p. 52-54; 1897 (1898), p. LV-LVI; 1898 (1899), p. LCCVII; 1899 (1900), p. LXXVII-LXXIX; 1900 (1901), p. 64-70; 1901 (1902), p. 57-61; 1902 (1904), p. 53-58.

MINNESOTA.

DULUTH.

- U. S. Commissioner of Fisheries:** [Establishment of station.] Report, 1887 (1891), p. XXXIV.
- [Operations of station at Duluth.] Report, 1888-89 (1892), p. XXXIII-XXXIV; 1889-1891 (1893), p. 43-44; 1892 (1894), p. XLVII-XLIX; 1893 (1895), p. 106-108; 1894 (1896), p. 44; 1895 (1896), p. 36; 1896 (1898), p. 55-56; 1897 (1898), p. LVII-LIX; 1898 (1899), p. LXXXI-LXXXII; 1899 (1900), p. LXXXI-LXXXII; 1900 (1901), p. 70-71; 1901 (1902), p. 60-62; 1902 (1904), p. 58.

HOMER.

- U. S. Commissioner of Fisheries:** [Site purchased and construction begun.] Report, 1910 (1911), p. 11.
- [Completion of buildings.] Report, 1912 (1914), p. 65.

MISSISSIPPI: TUPELO.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1902 (1904), p. 15-16.
- [Purchase of site.] Report, 1903 (1905), p. 13.
- [Progress of construction.] Report, 1904 (1905), p. 14.

MISSOURI: NEOSHO.

- McDonald, Marshall:** [Report in reference to the establishment of a fish-cultural station of the U. S. Fish commission in southwest Missouri.] Report, 1887 (1891), p. XXXI-XXXIII.
- U. S. Commissioner of Fisheries:** [Operations at Neosho.] Report, 1888-89 (1892), p. XXXIV; 1889-1891 (1893), p. 45-47; 1892 (1894), p. L-LIV; 1893 (1895), p. 110-117; 1894 (1896), p. 45-47; 1895 (1896), p. 38-41; 1896 (1898), p. 59-62; 1897 (1898), p. LIX-LXI; 1898 (1899), p. LXXXV-LXXXVII; 1899 (1900), p. LXXXVII-LXXXIX; 1900 (1901), p. 77-79; 1901 (1902), p. 65-66; 1902 (1904), p. 64-65.

MONTANA: BOZEMAN.

- U. S. Commissioner of Fisheries:** [Establishment of station at Bozeman.] Report, 1893 (1895), p. 7-8.
- [Brief mention.] Report, 1894 (1896), p. 8; 1895 (1896), p. 2.
- [Operations at Bozeman.] Report, 1897 (1898), p. LXV-LXVI; 1898 (1899), p. XCI-XCII; 1899 (1900), p. XCI-XCII; 1900 (1901), p. 83-85; 1901 (1902), p. 73-74; 1902 (1904), p. 69-71.

NEW HAMPSHIRE: NASHUA.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1899 (1900), p. XXVII.
- [Operations at Nashua.] Report, 1900 (1901), p. 42-43; 1901 (1902), p. 34-35; 1902 (1904), p. 34-36.

NEW JERSEY.

DELAWARE RIVER.

- U. S. Commissioner of Fisheries:** [Operations on Delaware River.] Report, 1892 (1894), p. XXVIII-XXIX; 1893 (1895), p. 90; 1894 (1896), p. 28-29; 1895 (1896), p. 22; 1896 (1898), p. 33-37; 1899 (1900), p. LIX-LX; 1900 (1901), p. 49; 1901 (1902), p. 42-43; 1902 (1904), p. 39-40.

GLOUCESTER CITY.

- U. S. Commissioner of Fisheries:** [Operations at Gloucester City.] Report, 1885 (1887), p. XCIII-XCIV; 1889-1891 (1893), p. 28-29.

NEW YORK.

CAPE VINCENT.

- U. S. Commissioner of Fisheries:** [Cape Vincent selected as site.] Report, 1894 (1896), p. 18.
 — [Operations at Cape Vincent.] Report, 1896 (1898), p. 32-33; 1897 (1898), p. XXIX-XXX; 1898 (1899), p. XLVII-L; 1899 (1900), p. LI-LIII; 1900 (1901), p. 47-49; 1901 (1902), p. 38-42; 1902 (1904), p. 38-39.

COLD SPRING HARBOR.

- Mather, Fred:** Account of eggs repacked and shipped to foreign countries, under the direction of the U. S. Fish commission. Report, 1882 (1884), p. 809-812; 1883 (1885), p. 973-974; 1884 (1886), p. 143-150; 1885 (1887), p. 117-120; 147-150; 1886 (1889), p. 829-831.
 — Report of operations at Cold Spring Harbor, Long Island. Report, 1884 (1886), p. 129-142; 1885 (1887), p. 109-115; 1886 (1889), p. 721-728.
 — Report of the hatching operations at Cold Spring Harbor, New York, during the season of 1884-85, and the distribution in the spring of 1885. Bulletin, 1885 (1885), vol. V, p. 469-472. F18-512
U. S. Commissioner of Fisheries: [Use of State hatchery at Cold Spring Harbor by U. S. Fish commission.] Report, 1883 (1885), p. XIX; 1884 (1886), p. XVI; 1885 (1887), p. XXIII-XXIV; 1886 (1889), p. XLI; 1887 (1891), p. XXVIII; 1888-89 (1892), p. XXV, 1889-1891 (1893), p. 28; 1892 (1894), p. XXVII-XXVIII.

ROSLYN.

- Mather, Fred:** Report upon the hatching and distribution of Penobscot and land locked, or schoodic, salmon in the spring of 1882. Report, 1882 (1884), p. 873-877.
U. S. Commissioner of Fisheries: [Use of Chapham's establishment for hatching salmon.] Report, 1882 (1884), p. LXVIII-LXIX.

NORTH CAROLINA.

AVOCA.

- Milner, James W.:** [Work at Avoca station during 1878.] Report, 1878 (1880), p. 617-
Tanner, Zera Luther: [Work of the *Fish Hawk* at Avoca.] Report, 1881 (1884), p. 59-60.
U. S. Commissioner of Fisheries: [Operations at Avoca station.] Report, 1881 (1884), p. XLIX.

EDENTON.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1899 (1900), p. XXIX-XXX.
 — [Operations at Edenton.] Report, 1900 (1901), p. 57-59; 1901 (1902), p. 50-52; 1902 (1904), p. 47-48.

WELDON.

- U. S. Commissioner of Fisheries:** [Joint operations by State and U. S. Fish commission.] Report, 1884 (1886), p. XLVIII.

OHIO.

PUT-IN BAY.

- U. S. Commissioner of Fisheries:** [Operations at Put-in Bay.] Report, 1899-1891 (1893), p. 38-39; 1892 (1894), p. XL-XLII; 1893 (1895), p. 100-102; 1894 (1896), p. 37-40; 1895 (1896), p. 31-32; 1896 (1898), p. 49-51; 1897 (1898), p. LIII-LIV; 1898 (1899), p. LXX-LXXXI, pl. XIII-XVI; 1899 (1900), p. LXXI-LXXVI; 1900 (1901), p. 60-63; 1901 (1902), p. 55-57; 1902 (1904), p. 50-53.

SANDUSKY.

- U. S. Commissioner of Fisheries:** [Use of State hatchery by U. S. Fish commission.] Report, 1888-89 (1891), p. XXIX-XXX; 1889-1891 (1893), p. 37.

OREGON.

BAKER LAKE.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1899 (1900), p. XXIX.
 — [Description of hatchery and operations for 1900.] Report, 1900 (1901), p. 96-97.
 — [Report of operations for 1901.] Report, 1901 (1902), p. 83-84; 1902 (1904), p. 81-82.

CLACKAMAS.

- Hubbard, W. F.:** Report of the salmon-hatching operations in 1878 at Clackamas hatchery. Report, 1878 (1880), p. 771-772.
Stone, Livingston: Report of operations at the salmon-hatching station on the Clackamas River in 1877. Report, 1877 (1879), p. 783-796. F16-117
U. S. Commissioner of Fisheries: [Establishment of station.] Report, 1878 (1880), p. XXVII.
 — [New station proposed on the Clackamas River, Oregon.] Report, 1886 (1889), p. XLIX.
 — [Operations at Clackamas station.] Report, 1878 (1880), p. XXVII; 1887 (1891), p. XIX-XX; 1888-89 (1892), p. XXXVI-XXXVII; 1889-1891 (1893), p. 52-53; 1892 (1894), p. LIX-LX; 1893 (1895), p. 121-122; 1894 (1896), p. 51; 1895 (1896), p. 48; 1896 (1898), p. 69-70; 1897 (1898), p. LXIX-LXX; 1898 (1899), p. XCVII-C; 1899 (1900), p. XCIII-XCIV; 1900 (1901), p. 91-92; 1901 (1902), p. 78-80; 1902 (1904), p. 75-77.

ROGUE RIVER.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1898 (1899), p. CI-CII.
 — [Operation of station.] Report, 1901 (1902), p. 78.
 — [Station reopened.] Report, 1900 (1901), p. 92-94.

SALMON RIVER.

- U. S. Commissioner of Fisheries:** [Selection of site for auxiliary station.] Report, 1897 (1898), p. LXX-LXXI.
 — [Operations at Salmon River.] Report, 1898 (1899), p. CI; 1899 (1900), p. XCIV-XCV.

SIUSLAW RIVER.

- U. S. Commissioner of Fisheries:** [Operation of hatchery near Mapleton, Oreg., by U. S. Fish commission.] Report, 1898 (1899), p. CIV.

UPPER CLACKAMAS.

- U. S. Commissioner of Fisheries:** [History of station.] Report, 1898 (1899), p. XCIX-C.
 — [Operations of station.] Report, 1899 (1900), p. XCIV.

PENNSYLVANIA: BRISTOL.

- U. S. Commissioner of Fisheries:** [Use of Pennsylvania State hatchery.] Report, 1898 (1899), p. LIX.

SOUTH CAROLINA: ORANGEBURG.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1912 (1914), p. 64.
 — [Purchase of site.] Report, 1913 (1914), p. 69.

SOUTH DAKOTA: SPEARFISH.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1897 (1898), p. XV.
 — [Purchase of site.] Report, 1898 (1899), p. XXVI.
 — [Operations at Spearfish.] Report, 1900 (1901), p. 81-83; 1901 (1902), p. 71-72; 1902 (1904), p. 68-69.

TENNESSEE: ERWIN.

- U. S. Commissioner of Fisheries:** [Act of August 5, 1892, authorizing the establishment of the station.] Report, 1894 (1896), p. 18.
 ——— [Selection of site.] Report, 1897 (1898), p. XV.
 ——— [Operations at Erwin.] Report, 1898 (1899), p. LXVII-LXX; 1899 (1900), p. LXIX-LXXI; 1900 (1901), p. 59-60; 1901 (1902), p. 52-53; 1902 (1904), p. 48-49.

TEXAS: SAN MARCOS.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1892 (1894), p. LXIII.
 ——— [Donation of site.] Report, 1893 (1895), p. 7.
 ——— [Operations at San Marcos.] Report, 1897 (1898), p. LXI-LXII; 1898 (1899), p. LXXXVII-LXXXVIII; 1899 (1900), p. LXXXV-LXXXVIII; 1900 (1901), p. 76-77; 1901 (1902), p. 67-69; 1902 (1904), p. 62-64.
 ——— [Closure of hatchery at San Marcos.] Report, 1917 (1919), p. 77-78.
 ——— [Station reopened.] Report, 1918 (1920), p. 10.

UTAH: SPRINGVILLE.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1914 (1915), p. 75.

VERMONT.

HOLDEN.

- U. S. Commissioner of Fisheries:** [Purchase of land for auxiliary station.] Report, 1910 (1911), p. 11.

ST. JOHNSBURY.

- U. S. Commissioner of Fisheries:** [Selection of site.] Report, 1893 (1895), p. 6.
 ——— [Construction of station.] Report, 1894 (1896), p. 2.
 ——— [Operations at St. Johnsbury.] Report, 1895 (1896), p. 15-17; 1896 (1898), p. 21-24; 1897 (1898), p. XXV-XXIX; 1898 (1899), p. XLV-XLVIII; 1899 (1900), p. XLVIII-LI; 1900 (1901), p. 39-42; 1901 (1902), p. 31-33; 1902 (1904), p. 32-34.

VIRGINIA.

GUNSTON.

- U. S. Commissioner of Fisheries:** [Operations of barges on the Potomac River in 1881.] Report, 1881 (1884), p. XLIX.

QUANTICO.

- U. S. Commissioner of Fisheries:** [Operations at Quantico.] Report, 1882 (1884), p. LXXII; 1883 (1885), p. LXXXIII-LXXXIV.

WYTHEVILLE.

- McDonald, Marshall:** Report of operations at the trout-breeding station at Wytheville, Va., from its occupation in January, 1882, to June 30, 1887. Report, 1885 (1887), p. 103-108; 1886 (1889), p. 793-800. F11-258
U. S. Commissioner of Fisheries: [Operations at Wytheville.] Report, 1898 (1899), p. LXVI-LXVII; 1899 (1900), p. LXVI-LXIX; 1900 (1901), p. 55-57; 1901 (1902), p. 47-50; 1902 (1904), p. 45-47.
 ——— [Act passed by the Virginia Legislature authorizing transfer of station from State to United States.] Report, 1898 (1899), p. XXVII.
 ——— [Operations of State hatchery by U. S. Fish commissioner.] Report, 1882 (1884), p. XVIII; 1883 (1885), p. XXV; 1884 (1886), p. XVI; 1885 (1887), p. XXIII; 1886 (1889), p. XLI; 1887 (1891), p. XXII-XXIII; 1888-89 (1892), p. XXIX; 1889-1891 (1893), p. 36-37; 1895 (1896), p. 29-31; 1896 (1898), p. 47-49; 1897 (1898), p. LI-LII.

WASHINGTON.

BIG WHITE SALMON.

- U. S. Commissioner of Fisheries: [Operations at Big White Salmon.] Report, 1902 (1904), p. 80-81.

BIRDSVIEW.

- U. S. Commissioner of Fisheries: [Purchase of land.] Report, 1911 (1913), p. 62.

BRINNON.

- U. S. Commissioner of Fisheries: [New station operated on the Dusenwallops River.] Report, 1913 (1914), p. 13.

DARRINGTON.

- U. S. Commissioner of Fisheries: [Field station established on the Sauk River.] Report, 1913 (1914), p. 13.

DUCKABUSH.

- U. S. Commissioner of Fisheries: [Selection of site and completion of buildings.] Report, 1911 (1913), p. 62.

EAGLE CREEK.

- U. S. Commissioner of Fisheries: [Operated as auxiliary of Little and Big White Salmon.] Report, 1903 (1905), p. 38.

LITTLE WHITE SALMON.

- U. S. Commissioner of Fisheries: [Selection of site.] Report, 1897 (1898), p. LXXI-LXXII.

——— [Operations at Little White Salmon.] Report, 1898 (1899), p. CII-CIV; 1899 (1900), p. XCV; 1900 (1901), p. 94-96; 1901 (1902), p. 81-83; 1902 (1904), p. 79-80.

QUILCENE RIVER.

- U. S. Commissioner of Fisheries: [Selection of site.] Report, 1911 (1913), p. 62.

QUINIAULT LAKE.

- U. S. Commissioner of Fisheries: [Location of new field station.] Report, 1915 (1917), p. 8.

SULTAN.

- U. S. Commissioner of Fisheries: [Field station established on Elwell Creek.] Report, 1913 (1914), p. 13.

TANNER CREEK.

- U. S. Commissioner of Fisheries: [Operated as auxiliary of Little and Big White Salmon.] Report, 1903 (1905), p. 38.

WEST VIRGINIA: WHITE SULPHUR SPRINGS.

- U. S. Commissioner of Fisheries: [Selection of site.] Report, 1902 (1904), p. 15.
——— [Construction of station.] Report, 1903 (1905), p. 12.

WYOMING: SARATOGA.

- U. S. Commissioner of Fisheries: [Selection of site.] Report, 1912 (1914), p. 64.
——— [Purchase of land for site.] Report, 1914 (1915), p. 76.

WORK OF BUREAU'S CARS.

- Eastman, Frank S.:** Description of the U. S. Fish commission car No. 2, designed for the distribution of young fish. Report, 1882 (1884), p. 39-41, pls.
- Ellis, J. Frank:** The transportation of fish and fish eggs. Report, 1897 (1898), p. 239-244; also in *Manual of fish-culture*, rev. ed., 1900, p. 239-244.
- McDonald, Marshall:** Summary of distribution of fish by one car during the past season. Bulletin, 1883 (1883), vol. III, p. 295. F18-138
- Stone, Livingston:** [California aquarium car.] Report, 1873-74 and 1874-75 (1876), p. 385-390.
- U. S. Commissioner of Fisheries:** [Car and messenger service.] Report, 1894 (1896), p. 52; 1896 (1898), p. 71; 1897 (1898), p. XIX; 1898 (1899), p. XXXIV-XXXVI; 1899 (1900), p. XLII; 1900 (1901), p. 16; 1901 (1902), p. 9; 1902 (1904), p. 10; 1903 (1905), p. 10; 1904 (1905), p. 6-7; 1905 (1907), p. 8; 1906 (1908), p. 8; 1907 (1909), p. 8.
- [Description of car No. 1.] Report, 1881 (1884), p. XLII; 1882 (1884), p. XXX; 1883 (1885), p. XXXVI.
- [Description of car No. 2.] Report, 1882 (1884), p. XXX; 1883 (1885), p. XXXVI.
- [Constructed in 1884.] Report, 1884 (1886), p. XXIII.
- [Cars 1, 2, and 3.] Report, 1885 (1887), p. XXXIII-XXXIV.
- [Trip of car No. 3, to Michigan.] Bulletin, 1885 (1885), vol. V, p. 106.
- [First use of car for hatching, Lambertville, Pa.] Report, 1885 (1887), p. XCIV.
- [New transportation car No. 5.] Report, 1899 (1900), p. XXXI.
- [Car 3 utilized as hatchery on St. Johns River.] Report, 1897 (1898), p. XIX.

FISH CULTURE BY COUNTRIES.

UNITED STATES.

GENERAL.

- Blackford, Eugene G.:** Opening remarks of the chairman of the fish-cultural section of the Fisheries Congress. Bulletin, 1893 (1894), vol. XIII, p. 191.
- Borodine, N.:** Statistical review of fish culture in Europe and North America. Bulletin, 1893 (1894), vol. XIII, p. 193-196. *Doc. 254 issued June 9, 1894.* F12-183
- Ewart, J. Cosser:** [A Scotch view of our methods.] Bulletin, 1885 (1885), vol. V, p. 83.
- Harding, Garrick M.:** Suggestions to fish culturists. Bulletin, 1881 (1882), vol. I, p. 55-56. F18-17
- Hubrecht, Ambrosius Arnold Willem:** Fish culture as seen at the London exhibition, with special references to its history, apparatus, and the methods used in the United States. Bulletin, 1883 (1883), vol. III, p. 337-348. F12-397
- Malmgren, A. J.:** [Fish culture in the United States.] Bulletin, 1883 (1883), vol. III, p. 363-382.
- Milner, James W.:** The progress of fish culture in the United States. Report, 1872-73 (1874), p. 523-558, pl. XIV-XV. F15-116
- Nordqvist, Oscar:** Some notes about American fish culture. Bulletin, 1893 (1894), vol. XIII, p. 197-200. *Doc. 255 issued June 9, 1894.* F12-183
- Stone, Livingston:** Some brief reminiscences of the early days of fish culture in the United States. Bulletin, 1897 (1898), vol. XVII, p. 337-343. *Doc. 391 issued Aug. 8, 1898.* F12-110
- Summary of reports for 1878 by State fish commissioners** respecting the increase of food fishes by artificial propagation. Report, 1878 (1880), p. 925-943. F16-187
- U. S. Bureau of Fisheries:** Reports of special conferences with the American fish culturists association and State commissioners of fisheries. Report, 1872 and 1873 (1874), p. 757-773.

ALASKA.

- Fassett, Harry Clifford:** [The Karluk hatchery.] Bulletin, 1901 (1902), vol. XXI, p. 331-348, illus., pl. XXXII-XXXIV.

ARIZONA.

- Evermann, Barton Warren:** [Inquiry respecting suitable site for fish-cultural work.] Report, 1904 (1905), p. 109.

CALIFORNIA.

- Campbell, J. B.:** Notes on McCloud River, California, and some of its fishes. Based upon a letter from J. B. Campbell. Bulletin, 1881 (1882), vol. I, p. 44-46. F18-14
- Green, Seth:** Rearing of California mountain trout (*Salmo irideus*). Bulletin, 1881 (1882), vol. I, p. 23. F18-11
- Poppe, Robert A.:** The introduction and culture of the carp in California. Report, 1878 (1880), p. 661-666. F16-173
- Titcomb, John W.:** [Landlocked salmon, trout, striped bass, and shad in California.] *Quoted by* C. A. Vogelsand. Report, 1903 (1905), p. 33-34.
- U. S. Bureau of Fisheries:** Hatching and distribution of California salmon. A. Report on California salmon spawn hatched and distributed, by J. H. Slack. B. Hatching and distribution of California salmon in tributaries of Great Salt Lake, by A. P. Rockwood. Report, 1873-74 and 1874-75 (1876), p. 431-435. F16-22

COLORADO.

- Titcomb, John W.:** [Trout introduced into Colorado.] Report, 1903 (1905), p. 32.

FLORIDA.

- Smith, Hugh McCormick:** Notes on Biscayne Bay, Florida, with reference to its adaptability as the site of a marine hatching and experiment station. Report, 1895 (1897), p. 169-191. *Doc. 333 issued Jan. 8, 1897.* F11-196

ILLINOIS.

- Bartlett, S. P.:** [Fish-culture in Illinois.] Bulletin, 1885 (1885), vol. V, p. 107.

IOWA.

- Mosher, A. A.:** Notes on fish-culture in Iowa. Bulletin, 1885 (1885), vol. V, p. 312. F18-459

MAINE.

- Stanley, E. M.:** [Work of the Maine commission.] Bulletin, 1885 (1885), vol. V, p. 465.

MICHIGAN.

- Post, Hoyt:** Fish-culture in Michigan. Bulletin, 1893 (1894), vol. XIII, p. 201-211. *Doc. 256 issued June 26, 1894.* F12-183

MONTANA.

- Crosby, John Schuyler:** Stocking the streams of Montana with fish. Bulletin, 1883 (1883), vol. III, p. 301-302. F18-140
- Henshall, James Alexander:** Culture of the Montana grayling. Report and special papers, 1906 (1908), 7 p. *Doc. 628 issued Dec. 11, 1907.* 7-35451
- Titcomb, John W.:** [Propagation of trout in Montana.] Report, 1903 (1905), p. 32.

NEW JERSEY.

- Mason, Harry W.:** Report of operations on the Naversink River, New Jersey, in 1879, collecting living striped bass for transportation to California. Report, 1879 (1882), p. 663-666. F17-15
- Titcomb, John W.:** [Propagation of black bass in New Jersey.] Report, 1903 (1905), p. 34.

NORTH CAROLINA.

- Worth, S. G.:** Summary of fish-cultural work in North Carolina. Bulletin, 1885 (1885), vol. V, p. 365-367. F18-481

OREGON.

- Dowell, B. F.:** [Fish-culture in Oregon.] Bulletin, 1884 (1884), vol. IV, p. 469-470.

PENNSYLVANIA.

Citcomb, John W.: [Propagation of rainbow trout in Pennsylvania.] Report, 1903 (1905), p. 34.

SOUTH DAKOTA.

Citcomb, John W.: [Trout in South Dakota.] Report, 1903 (1905), p. 32.

VERMONT.

Stone, L.: [Decline in fish hatching in Vermont.] Bulletin, 1885 (1885), vol. V, p. 351.

WYOMING.

Evermann, Barton W.: [Results of stocking the waters of Yellowstone national park with fish.] Bulletin, 1891 (1893), vol. XI, p. 53-55.

Maynard, H. J.: [Fish-culture in Wyoming Territory.] Bulletin, 1885 (1885), vol. V, p. 107-108.

PACIFIC COAST.

Dunn, Horace D.: [Fish-culture on the Pacific coast.] Bulletin, 1887 (1889), vol. VII, p. 49-50.

CANADA.

Malmgren, A. J.: [Fish-culture in Canada.] Bulletin, 1883 (1883), vol. III, p. 363-382.

MEXICO.

LaMotte, Alfred V.: Commission de Piscicultura de La Republica Mexicana. Bulletin, 1884 (1884), vol. IV, p. 124. F18-243

EUROPE.

GENERAL.

Bettoni, Eugenio, and Decio Vinciguerra: On the fish-cultural establishments of central Europe. Report, 1886 (1889), p. 539-601. F17-147

Borodine, N.: Statistical review of fish-culture in Europe and North America. Bulletin, 1893 (1894), vol. XIII, p. 193-196. *Doc. 254 issued June 9, 1894.* F12-183

Bouchon-Brandely, Germain: Report on the state of pisciculture in France and the neighboring countries. Report, 1872 and 1873 (1874), p. 513-523. F15-115

Haime, Jules: The history of fish-culture in Europe from its earliest records to 1854. Report, 1872 and 1873 (1874), p. 465-492. F15-113

Raveret-Wattel, C.: Report on the condition of pisciculture in foreign countries from documents collected at the International fishery exposition at Berlin, 1880. Report, 1880 (1883), p. 477-489. F16-295

AUSTRIA.

Gasch, Adolf: Pond-cultivation on the Kaniow estate (District of Biala, Galicia), the property of his imperial highness, Archduke Albrecht of Austria. Report, 1880 (1883), p. 533-543. F16-282

Malmgren, A. J.: [Fish-culture in Austria.] Bulletin, 1883 (1883), vol. III, p. 372-373.

Marenzeller, Emil, edler von: The piscicultural establishment of Mr. August Fruwirth in Freiland near St. Polten, Lower Austria. Report, 1879 (1882), p. 651-660, illus. F17-14

Peyer, Karl: [Artificial fish breeding.] Report, 1873-74 and 1874-75 (1876), p. 580-585.

Swetitsch, Joseph: A depot for embryonated eggs of all the valuable kinds of fish. Bulletin, 1881 (1882), vol. I, p. 345-346.

Vengen, von der: [Artificial fish-culture in Austria.] Report, 1884 (1886), p. 454.

BELGIUM.

- Fry planted in rivers of Belgium in 1886. Bulletin, 1886 (1887), vol. VI, p. 258-263. F18-587
- Selys-Longchamps, Edmond, i. e., Michel Edmond Selys de, baron: Repopulation of the water-courses in Belgium. Report, 1881 (1884), p. 815-824. F16-343
- Willequet, E.: Fish-culture in Belgium. Bulletin, 1883 (1883), vol. III, p. 218-220. F12-391
- Fish-culture in Belgium—Proposed government action. Bulletin, 1883 (1883), vol. III, p. 437-439. F18-168

DENMARK.

- Wengen, von der: [Fish-culture in Denmark.] Report, 1884 (1886), p. 458.

FINLAND.

- Malmgren, A. J.: Memorial addressed to the Bureau of agriculture of the Imperial senate for Finland, January 20, 1883, in regard to the advisability of introducing artificial fish culture in Finland. Bulletin, 1883 (1883), vol. III, p. 363-382. F12-309
- Wengen, von der: [Question of fish-culture in Finland.] Report, 1884 (1886), p. 437-438.

FRANCE.

- Bouchon-Brandely, Germain: Report on the state of pisciculture in France and the neighboring countries. Report, 1872-73 (1874), p. 513-523. F15-115
- Causans, Viscount de: The fish-cultural establishment of Lake Saint-Front, Haute Loire, France. Bulletin, 1885 (1885), vol. V, p. 201-202. F18-408
- Chabot-Karlen: [Reports on fish-cultural operations in France, at Beaune, Saint-Remy and Nanteuil-en-Vallen.] Bulletin, 1894 (1895), vol. XIV, p. 309-311.
- Ducastel: The transformation of salt marshes into fish ponds. Report, 1880 (1883), p. 517-531, illus. F16-279
- Halloy, Leon d': Fish-culture at Gouville, France. Bulletin, 1885 (1885), vol. V, p. 255-256. F18-425
- Malmgren, A. J.: [Fish-culture in France.] Bulletin, 1883 (1883), vol. III, p. 369.
- The piscicultural establishment at Gremaz (Ain), France. Bulletin, 1887 (1889), vol. VII, 207-211. F18-670
- Wengen, von der: [Fish-culture in France.] Report, 1884 (1886), p. 442-443. F17-135

GERMANY.

- Bavarian Fishery Association: [Course of instruction.] Bulletin, 1895 (1896), vol. XV, p. 321-324.
- Behr, Friedrich von: [Address made at the meeting of the German fishery association at Berlin, March 16, 1877, by Mr. Von Behr, Schmoldow, president of the association, member of the German parliament.] Report, 1875-76 (1878), p. 1014-1024.
- Borne, Max von dem: How can our lakes and rivers be again stocked with fish in the shortest possible time? Report, 1873-74 and 1874-75 (1876), p. 681-683. F16-32
- Distribution of American fish and fish eggs by the German fishery association. Bulletin, 1885 (1885), vol. V, p. 261-264.
- Brumme: Great results obtained with little water. Bulletin, 1884 (1884), vol. IV, p. 329-331. F13-111
- Eben-Bauditten: Recent contributions to pond cultivation. Bulletin, 1881 (1882), vol. I, p. 385-387.
- [Fish-cultural methods at the agricultural school at Freising.] Bulletin, 1895 (1896), vol. XV, p. 320-321, pl. 55.
- Hoffman: [Fish-culture on the Frische-Haff.] Bulletin, 1886 (1887), vol. VI, p. 311-312.
- Jaffe, S.: Notes on fish-culture in Germany. Bulletin, 1895 (1896), vol. XV, p. 311-324, illus. Doc. 304 issued Mar. 5, 1896. F12-246
- Malmgren, A. J.: [Fish-culture in Germany.] Bulletin, 1883 (1883), vol. III, p. 369-372.
- Mr. Christian Wagner's establishment for raising goldfish at Oldenberg, Germany. Report, 1878 (1880), p. 679-684. F16-177
- Polenz, Chamberlain von: An opinion regarding R. Eckhardt's answer to Professor Malmgren. Bulletin, 1883 (1883), vol. III, p. 387-388. F18-148

- Treskow-Weissagk, von:** What dangers threaten the products of the old pond carp fisheries from artificial fish culture. Bulletin, 1883 (1883), vol. III, p. 303-304. F18-142
- Veckenstedt, Edm.:** On the carp ponds of Nether Lusatia. Report, 1878 (1880), p. 671-674. F16-175
- Wengen, von der:** [Fish-culture in Germany.] Report, 1884 (1886), p. 444-452. F17-135

GREAT BRITAIN.

- Duncan, J. Barker:** Salmon and trout hatcheries in Scotland. Bulletin, 1885 (1885), vol. V, p. 451-456. F18-508
- Exeter, Marquis:** [American fish eggs in England.] Bulletin, 1886 (1887), vol. VI, p. 129.
- Fulton, T. Wemyss:** Description of the marine hatchery at Dunbar, Scotland. Bulletin, 1893 (1894), vol. XIII, p. 257-262. *Doc. 261 issued June 26, 1894.* F12-183
- Howietoun fishery:** [Fish-culture in Scotland.] Bulletin, 1886 (1887), vol. VI, p. 406.
- [The **Howietoun** hatchery in Scotland.] Bulletin, 1885 (1885), vol. V, p. 83-84.
- Malmgren, A. J.:** [Fish-culture in England, Scotland, and Ireland.] Bulletin, 1883 (1883), vol. III, p. 374-375.
- Manley, J. J.:** Pisciculture in England. Bulletin, 1884 (1884), vol. IV, p. 69-74. F13-83
- McIntosh, W. C.:** Fish-cultural investigations at St. Andrews Marine Laboratory, Scotland. Bulletin 1893 (1894), vol. XIII, p. 241-256. *Doc. 261 issued June 26, 1894.* F12-183
- Wengen, von der:** [Fish-culture in England.] Report, 1884 (1886), p. 454-455.

ICELAND.

- Thorarinsson, Bened. S.:** Notes on the hatcheries and fresh-water fisheries of Iceland. Bulletin, 1887 (1889), vol. VII, p. 120-126. F18-661

ITALY.

- Pavesi, Pietro:** Notes on hatching and planting young fish in Italian waters. Bulletin, 1886 (1887), vol. VI, p. 263-265. F18-588

NORWAY.

- Dannevig, Gunder Mathisen:** Report of operations at the hatching establishment for marine fishes, Arendal, 1884. Bulletin, 1885 (1885), vol. V, p. 154-160. F18-395
- Artificial hatching of salt-water fish and lobsters in Norway. Bulletin, 1885 (1885), vol. V, p. 437-440. F18-501
- The utility of sea-fish hatching. Bulletin, 1908 (1910), vol. XXVII, p. 811-816. *Doc. 681 issued April, 1910.* 10-35424
- Landmark, Anthon, i. e. Even Anthon Thomas:** [Concerning the desirability of a hatchery for salt-water fish in Norway.] Bulletin, 1885 (1885), vol. V, p. 146-147.
- Malmgren, A. J.:** [Fish-culture in Norway.] Bulletin, 1883 (1883), vol. III, p. 375-376.
- Rasch, Halvor Heyerdahl; A. Landmark; and G. O. Sars:** Opinions concerning the desirability of a hatchery for salt-water fish in Norway. Bulletin, 1885 (1885), vol. V, p. 146-151. F18-392
- Sars, George Ossian:** [Opinion concerning the desirability of a hatchery for salt-water fish in Norway.] Bulletin, 1885 (1885), vol. V, p. 148-149.
- Wengen, von der:** [Fish-culture in Norway.] Report, 1884 (1886), p. 456-458.
- Wergeland, N.:** The economical value of the Norwegian Lakes and rivers as a field for fish-culture. Report, 1878 (1880), p. 539-604. F16-169

RUSSIA.

- Leach, Glen C., and Nicolas A. Borodin:** Artificial propagation of sturgeon. Review of sturgeon culture in the United States, by Glen C. Leach, and Artificial propagation of sturgeon in Russia, by Nicolas A. Borodin. Appendix III, Report, 1919 (1921), 7 p. *Doc. 880 issued Feb. 19, 1920.* F20-1

- Malmgren, A. J.:** Memorial address to the Bureau of agriculture of the Imperial senate of Finland, January 20, 1883, in regard to the advisability of introducing artificial fish-culture in Finland. (History of fish-culture in Russia: p. 363-368.) Bulletin, 1883 (1883), vol. III, p. 363-382. F12-309
- Soudakevicz, Theodore:** Report on the progress of pisciculture in Russia. Report, 1872 and 1873 (1874), p. 493-513. F15-114
- Wengen, von der:** [Fish-culture in Russia.] Report, 1884 (1886), p. 439-441. F17-135

SPAIN.

- Muntadas, F.:** Report on the piscicultural establishment of Piedra, Aragon, Spain. Bulletin, 1887 (1889), vol. VII, p. 211-215. F18-671

SWEDEN.

- Malmgren, A. J.:** [Fish-culture in Sweden.] Bulletin, 1883 (1883), vol. III, p. 376-377.

SWITZERLAND.

- [Swiss fish-culture.] Bulletin, 1885 (1885), vol. V, p. 338.

ASIA.

CHINA.

- Kopsch, H.:** Notes on pisciculture in Kiangsi. Report, 1873-74 and 1874-75 (1876), p. 543-547. F16-27
- Seymour, Charles:** Fish-culture in southern China. Bulletin, 1885 (1885), vol. V, p. 252-254. F18-423
- Shephard, Isaac F.:** Fish-culture in China. Bulletin, 1885 (1885), vol. V, p. 250-251. F18-422
- Smart, Goldsmith and Johnson:** A Chinese method of fish-culture. Bulletin, 1884 (1884), vol. IV, p. 88. F18-235
- Smithers, E. J.:** Carp culture in China. Bulletin, 1885 (1885), vol. V, p. 249-250. F18-421

JAPAN.

- Mitsukuri, Kakichi:** The cultivation of marine and fresh-water animals in Japan. Bulletin, 1904 (1905), vol. XXIV, p. 257-289, illus. XI pl. *Doc. 573 issued June 17, 1905.* F12-10
- Sekizawa, Akekio:** Memorandum on fish-culture in Japan, with a notice of experiments in breeding the California trout. Report, 1879 (1882), p. 645-648. F17-12

OCEANICA.

HAWAIIAN ISLANDS.

- Cobb, John Nathan:** [Fish ponds of the Hawaiian Islands.] Report, 1901 (1902), p. 427-433.
- [Fish ponds of the Hawaiian Islands.] Bulletin, 1903 (1905), vol. XXIII, pt. II, p. 746-750, pl. 106.
- Jordan, David Starr:** [Fish ponds of the Hawaiian Islands.] Report, 1901 (1902), p. 374-375.

NEW ZEALAND.

- Creighton, R. J.:** Fish culture in New Zealand. Bulletin, 1881 (1882), vol. I, p. 51-52. F12-334
- Rutherford, Alexander J.:** [Fish-culture in New Zealand.] Bulletin, 1886 (1887), vol. VI, p. 463-464.
- Seed, William:** Fish-culture in New Zealand. Bulletin, 1886 (1887), vol. VI, p. 213-216. F18-579

MALACCA AND STRAITS SETTLEMENTS.

- Wray, Leonard:** A desire for fish-culture in Malacca. Bulletin, 1885 (1885), vol. V, p. 463-464. F18-510

INTRODUCED SPECIES.

UNITED STATES.

- Arrival of German trout eggs, *Salmo fario*.] Bulletin, 1884 (1884), vol. IV, p. 361.
- Bean, Tarleton Hoffmann:** Report on the proposed introduction of Jamaica mountain mullet into the United States. Bulletin, 1888 (1890), vol. VIII, p. 443-451. F11-326
- Blackford, Eugene Gilbert:** [Shipment of soles from England to New York.] Bulletin, 1886 (1887), vol. VI, p. 449-450.
- Clark, Frank:** [Salmon in the Hudson.] Quoted from Forest and Stream of June 10, 1886. Report, 1885 (1887), p. 110.
- Collins, Joseph William:** [Acclimatization of shad on the Pacific coast.] Report, 1888-1889 (1892), p. 11.
- [**Coregonus albula** eggs from Germany.] Bulletin, 1885 (1885), vol. V, p. 468.
- Davis, H. B.:** Gratifying results of propagating German carp. Bream and carp in ponds together. Table qualities of carp. Bulletin, 1882 (1883), vol. II, p. 317-318. F18-109
- Dunn, Horace D.:** [Fish-culture on the Pacific coast.] Bulletin, 1887 (1889), vol. VII, p. 49-50.
- Finsch, Otto:** Report on the transportation of a collection of living carp from Germany. Report, 1879 (1882), p. 667-670. F17-16
- Gill, Theodore Nicholas:** Natural and economical history of the gourami (*Osphromenus goramy*). Report, 1872 and 1873 (1874), p. 710-728. Doc. 9 issued Jan. 26, 1875. F11-205
- Green, Seth:** The introduction of land-locked salmon into Woodhull Lake, New York, and the subsequent capture of some of them. Bulletin, 1881 (1882), vol. I, p. 421. F18-55
- Hessel, Rudolph:** The carp and its cultivation in rivers and lakes; and its introduction into America. Report, 1875-76 (1878), p. 865-900. Doc. 27 issued Apr. 20, 1881. F12-218
- Arrival of blue carp from Germany. Bulletin, 1883 (1883), vol. III, p. 443. F18-174
- Kendall, William Converse:** Fishes and fishing in Sunapee Lake. (Introduced fishes: p. 16-18.) Report and special papers, 1912 (1914). Doc. 783 issued Jan. 28, 1914. F14-1
- Klotz, J. P. J.:** [Possibility and usefulness of acclimatization.] Report, 1880 (1883), p. 511-512.
- McDonald, Marshall:** [Assignments of eggs of brown trout and saibling, season of 1887.] Bulletin, 1887 (1889), vol. VII, p. 34.
- Maitland, Sir James Gibson, bart.:** Exchange of land-locked salmon eggs from Maine for Lock Leven trout ova from Scotland. Bulletin, 1884 (1887), vol. IV, p. 114.
- Mather, Fred:** The experiment of transporting turbot and soles from England to America. Report, 1877 (1879), p. 867-973. F16-123
- Exchange of live marine specimens with France. Bulletin, 1883 (1883), vol. III, p. 472. F18-198
- Brown trout in America. Bulletin, 1887 (1889), vol. VII, p. 21-22. F18-640
- Report upon the results of salmon planting in the Hudson River. Bulletin, 1887 (1889), vol. VII, p. 409-424. F18-678
- Matte, Paul:** [Receipt of paradise fish from Germany.] Bulletin, 1885 (1885), vol. V, p. 85.
- Moore, Thomas J.:** Report of a successful attempt to introduce living soles in America. Bulletin, 1887 (1889), vol. VII, p. 1-7. F18-634
- Phillips, Barnet:** Holland carp put into the Hudson River about 1830. Bulletin, 1882 (1883), vol. II, p. 25. F18-70
- Pope, Thomas E. B.:** Devils Lake, North Dakota. A study of physical and biological conditions with a view to the acclimatization of fish. (Acclimatization experiments: p. 20-21.) Report and special papers, 1907 (1908), 23 cm., 22 p., III pl. Doc. 634 issued July 16, 1908. 8-35574
- Redding, Joseph D.:** Character of the carp introduced by Capt. Henry Robinson about 1830. Bulletin, 1884 (1884), vol. IV, p. 266-267. F18-308
- Robinson, W. Russel:** A California salmon taken in James River. Bulletin, 1884 (1884), vol. IV, p. 290. F18-314
- Shears, E. E.:** Carp in the Hudson River. Bulletin, 1881 (1882), vol. I, p. 54-55. F18-16

- Smiley, Charles Wesley:** Loch Leven trout introduced in the United States. Bulletin, 1887 (1889), vol. VII, p. 28-32. F18-644
- Smith, Hugh McCormick:** Notes on the capture of Atlantic salmon at sea and in the coast waters of the eastern States. Bulletin, 1894 (1895), vol. XIV, p. 95-99, pl. 3-4. *Doc. 281 issued May 4, 1894.* F12-168
- A review of the history and results of the attempts to acclimatize fish (catfish, carp, tench, goldfish, awa, shad, whitefish, Atlantic salmon, landlocked salmon. Von Behr trout, Loch Leven trout, lake trout, eastern brook trout, muskellunge, pike, eel, crappies, bass, sunfishes, yellow perch, tautog) in the Pacific States, Bulletin, 1895 (1896), vol. XV, p. 379-472, pl. 73-83. *Doc. 309 issued Apr. 22, 1896.* F11-341
- Stowe, William:** [An opinion of the sole.] Bulletin, 1885 (1885), vol. V, p. 467.
- Throckmorton, S. R.:** The introduction of striped bass into California. Bulletin, 1881 (1882), vol. I, p. 61-62. F18-21
- U. S. Commissioner of Fisheries:** [Attempt to introduce the Gourami.] Report, 1881 (1884), p. LII.
- [Efforts to introduce sole from England.] Report, 1881 (1884), p. LIII-LV.
- [Acclimatization of new species.] Report, 1887 (1891), p. LI-LII.
- [Some results of fish acclimatization.] Report, 1896 (1898), p. 136-143.
- [Acclimatization of bass and shad on the Pacific coast.] Report, 1905 (1907), p. 15-16.
- [Acclimatization of chinook and Atlantic salmon.] Report, 1910 (1911), p. 12-13.
- [Acclimatization of humpback salmon in Maine and of steelhead trout in New England.] Report, 1914 (1915), p. 59.
- [Transfer of humpback salmon to New England.] Report, 1915 (1917), p. 27.

ONTARIO.

- Wilmot, Samuel:** Introduction of California salmon into Ontario, with remarks on the disappearance of Maine salmon from that province. Bulletin, 1881 (1882), vol. I, p. 347-349. F20-146

CUBA.

- Odvaras, J. N.:** [Carp sent to Cuba.] Bulletin, 1884 (1884), vol. IV, p. 308-309.

MEXICO.

- [Carp for Mexico.] Bulletin, 1885 (1885), vol. V, p. 346.

SOUTH AMERICA.

- [Carp for South America.] Bulletin, 1885 (1885), vol. V, p. 347.

ARGENTINA.

- Tulian, E. A.:** Acclimatization of American fishes in Argentina. Bulletin, 1908 (1910), vol. XXVIII, p. 955-965. *Doc. 696 issued April, 1910.* 10-35430

BRAZIL.

- [Carp sent to Brazil.] Bulletin, 1884 (1884), vol. IV, p. 309.
- Couchman, J. W.:** Transporting carp from the United States Fish commission to Brazil. Bulletin, 1882 (1883), vol. II, p. 382. F18-110

CHILE.

- Cerda, Juan de la C.:** Proposed transmission of salmon eggs to Chili and importation of Chilean species of fishes. Bulletin, 1885 (1885), vol. V, p. 247-248. F18-420

EUROPE.

GENERAL.

- Correspondence connected with the transmission of eggs of the Quinnsat salmon and other Salmonidæ to European countries in 1878 and prior years.** Report, 1878 (1880), p. 907-924. F16-186

- Mather, Fred:** Account of trip to Europe with eggs of Quinnsat salmon. Report, 1877 (1879), p. 811-816. F16-119,
 — Account of eggs repacked and shipped to foreign countries, under the direction of the U. S. Fish commission during the winter of 1882-83. Report, 1883 (1885), p. 809-812. F16-317
 — Account of eggs repacked at Cold Springs Harbor, N. Y., and shipped to foreign countries under the direction of the U. S. Fish commission during the winter of 1884-85. Report, 1884 (1886), p. 147-150.

AUSTRIA.

- Franke, Johann:** Causes of degeneration of American trouts in Austria. Bulletin, 1908 (1910), vol. XXVII, p. 983-989. Doc. 699 issued April, 1910. 10-35428
Pirko, Franz von: Naturalization of American fishes in Austrian waters. Bulletin, 1908 (1910), vol. XXVIII, p. 977-982. Doc. 698 issued April, 1910. 10-35429

BELGIUM.

- Lefebvre, Alfred:** The proposed introduction of American catfish into the rivers of Belgium. Bulletin, 1882 (1883), vol. II, p. 153-154. F18-93
 — [The arrival of catfish in Belgium.] Bulletin, 1885 (1885), vol. V, p. 467.
 [Shipment of catfish to Belgium.] Bulletin, 1885 (1885), vol. V, p. 84.
Wilson, Thomas: The proposed introduction of catfish into Ghent. Bulletin, 1881 (1882), vol. I, p. 340.

FINLAND.

- Nordqvist, Oscar Frithiof:** An American fish in Finland. Bulletin, 1894 (1895), vol. XIV, p. 27-28. Doc. 234 issued Mar. 25, 1894. F12-179

FRANCE.

- American land-locked salmon and lake trout in France.** Bulletin, 1884 (1884), vol. IV, p. 76. F18-227
Banmeyer, M.: American lake trout and whitefish in France. Bulletin, 1884 (1884), vol. IV, p. 52. F18-217
Duclos, Gilbert: American silver perch, or calico bass. Bulletin, 1887 (1889), vol. VII, p. 215-216. F18-672
Jousset de Bellesme, Georges Louis Marie Felicien: American catfish in the Trocadero aquarium of Paris. Bulletin, 1886 (1887), vol. VI, p. 257. F18-586
Maslieurat-Lagemard: Acclimatization of *Salmo quinnat* in France. Bulletin, 1884 (1884), vol. IV, p. 144. F18-255
Mather, Fred: Exchange of live specimens with France. Bulletin, 1883 (1883), vol. III, p. 472. F18-198
Notes on the cultivation of fish—mostly American—in France. [Translations of items in the Proceedings of the Societe national d'acclimation, published in the monthly bulletin of the society.] Bulletin, 1884 (1884), vol. IV, p. 273-281. F18-310
Raveret-Wattel, C.: [American catfish in France.] Bulletin, 1886 (1887), vol. VI, p. 138.
 — [Successful introduction of lake trout (*Salmo namaycush*) in France.] Bulletin, 1884 (1884), vol. V, p. 312-313.
 — American fish being acclimatized in France. Bulletin, 1885 (1885), vol. V, p. 244. F18-418
 — Notes on the culture of American salmon in France. Bulletin, 1885 (1885), vol. V, p. 260. F18-428
 — American fish in France. Bulletin, 1885 (1885), vol. V, p. 423. F18-488
Raveret-Wattel, and Bartet: Reproduction of California salmon in the aquarium of Trocadero. (Tr. by Marshall McDonald.) Bulletin, 1883 (1883), vol. III, p. 207-208. F12-382
Societe Nationale d'Acclimation de France: [Eggs of *Salmo irideus* in France.] Bulletin, 1886 (1887), vol. VI, p. 311.
Valery-Mayot: Acclimatization of *Salmo quinnat* in France. Bulletin, 1884 (1884), vol. IV, p. 138. F18-247
Whitefish, lake trout, and brook trout in France. Bulletin, 1884 (1884), vol. IV, p. 112. F18-238

GERMANY.

- Behr, Friedrich von:** Five American Salmonidæ in Germany. Bulletin, 1882 (1883), vol. II, p. 237-246. F12-360
- Bettoni, Eugenio, and D. Vinciguerra:** [Successful experiments in acclimatizing bass in Germany.] Report, 1886 (1889), p. 569.
- Borne, Max von dem:** The American black bass. Bulletin, 1883 (1883), vol. III, p. 221-224. F12-392
- Spawning in Germany of the large-mouthed black bass sent from the United States in 1882. Bulletin, 1884 (1884), vol. IV, p. 219. F18-288
- Report on black bass sent from America to Germany in 1883. Bulletin, 1884 (1884), vol. IV, p. 384. F18-342
- Distribution of American fish and fish-eggs by the German fishery association. Bulletin, 1885 (1885), vol. V, p. 261-263. F18-429
- [Spawning of American black bass in Germany.] Bulletin, 1885 (1885), vol. V, p. 341.
- [Black bass in Germany.] Bulletin, 1885 (1885), vol. V, p. 465.
- [American catfish in Germany.] Bulletin, 1886 (1887), vol. VI, p. 311.
- Discussion** at the Dresden conference in 1883, of the kinds of fish eggs to be obtained from the United States. Bulletin 1884 (1884), vol. IV, p. 419-420. F18-354
- [Living shad on their way to the Weser.] Report, 1873-1875 (1876), p. 330-335.
- Mather, Fred:** [Voyage to Brennesshaven, Germany, with shad.] Report, 1873-1875 (1876), p. 328-330.

GREAT BRITAIN.

- Armistead, A. Wilson:** A transfer of leather carp (*Cyprinus carpio*) from the Government ponds at Washington, U. S. A., to Scotland. Bulletin, 1881 (1882), vol. I, p. 341-342. F20-110
- [Carp and ides sent to England.] Bulletin, 1885 (1885), vol. V, p. 102.
- Chambers, W. Oldham:** [Fish for England.] Bulletin, 1885 (1885), vol. V, p. 79-80.
- American fish cultivated by the National fish culture association of England. Bulletin, 1887 (1889), vol. VII, p. 17-19. F18-638
- Ffennell, Henry:** Hatching American fish at South Kensington, and their introduction to English waters. Bulletin, 1885 (1885), vol. V, p. 273-275. F18-435
- [American fish eggs in England.] Bulletin, 1885 (1885), vol. V, p. 339-340.
- Forest and Stream:** [A large American brook trout (*Salvelinus fontinalis*) in England.] Bulletin, 1886 (1887), vol. VI, p. 459.
- Hensman, John T.:** American black bass placed in the river Nene, England. Bulletin, 1884 (1884), vol. IV, p. 166. F18-261
- [Introducing catfish into England.] Bulletin, 1885 (1885), vol. V, p. 347-348.
- [Introduction of the aland or orfe into England.] Bulletin, 1881 (1882), vol. I, p. 218-220. F18-42
- Maitland, Sir James Gibson, bart.:** Exchange of land-locked salmon eggs from Maine for Loch Leven trout ova from Scotland. Bulletin, 1884 (1884), vol. IV, p. 114. F18-240
- Manley, J. J.:** American fish introduced in English waters. Bulletin, 1884 (1884), vol. IV, p. 60. F18-222
- Zenk, F.:** [Sending trout eggs from Germany to England.] Bulletin, 1884 (1884), vol. IV, p. 361.

ITALY.

- Besana, Giuseppe:** American fishes in Italy. Bulletin, 1908 (1910), vol. XXVIII, p. 947-954. Doc. 695 issued April, 1910. 10-35414

NETHERLANDS.

- Botemanne, C. J.:** California salmon in the Netherlands. Report, 1879 (1882), p. 709-713. F17-20
- Kerbert, Coenraad:** [Black bass sent to Amsterdam.] Bulletin, 1885 (1885), vol. V, p. 352.
- Two species** of American fish in the aquarium of the Royal zoological society at Amsterdam. Bulletin, 1886 (1887), vol. VI, p. 197-199. F18-573

NORWAY.

- [American trout in Norway.] Bulletin, 1885 (1885), vol. V, p. 349.
 Nature: [*Salmo fontinalis* in Norway.] Bulletin, 1886 (1887), vol. VI, p. 453.

SWEDEN.

- Trybom, Filip: The tench recommended for cultivation in Sweden. Bulletin, 1886 (1887), vol. VI, p. 209-210. F18-578

SWITZERLAND.

- Frey, Emile: Disposition of whitefish eggs sent to Switzerland. Bulletin, 1885 (1885), vol. V, p. 358. F18-474
 ——— [Whitefish and lake trout eggs sent to Switzerland.] Bulletin, 1886 (1887), vol. VI, p. 129.
 Goll, Hermann: The American brook trout recommended for Swiss waters. Bulletin, 1886 (1887), vol. VI, p. 206-208. F18-576

OCEANICA.

AUSTRALIA.

- Correspondence connected with the transmission of eggs of the Quinnot salmon and whitefish to Australia and New Zealand, 1877, 1878, and prior years. Report, 1878 (1880), p. 825-905. F16-185
 Dannevig, G. M.: Salmonidæ in Australia. Bulletin, 1885 (1885), vol. V, p. 440-442. F18-502
 Greenfield, Alfred: Report upon the receipt and hatching of American whitefish ova and planting of the fry in Australia. Bulletin, 1884 (1884), vol. IV, p. 190-191. F18-279
 The Melbourne Argus: (Trout and California salmon in Australia.) Bulletin, 1886 (1887), vol. VI, p. 409.
 Whitcombe, W. P.: Notes on the acclimatization of fish in Victoria, Australia. Bulletin, 1884 (1884), vol. IV, p. 31-32. F18-209
 ——— Shipments of whitefish eggs to the Ballarat fish acclimatization society. Bulletin, 1885 (1885), vol. V, p. 329-331. F18-468
 Wilson, Samuel: [California salmon successful in Australia.] Bulletin, 1885 (1885), vol. V, p. 466.

NEW ZEALAND.

- American birds, animals, and fishes for New Zealanders. Bulletin, 1881 (1882), vol. I, p. 53-54. F18-15
 American fish in New Zealand. Bulletin, 1886 (1887), vol. VI, p. 304. F18-601
 Ayson, L. F.: Introduction of American fishes into New Zealand. (With discussion by H. Stephenson Smith and Edward E. Prince.) Bulletin, 1908 (1910), vol. XXVIII, p. 967-975. Doc. 697 issued April, 1910. 10-35440
 Correspondence connected with the transmission of eggs of the Quinnot salmon and whitefish to Australia and New Zealand, 1877, 1878, and prior years. Report, 1878 (1880), p. 825-905. F16-185
 Correspondence relating to the exportation of fishes and fish-hatching apparatus to New Zealand . . . A. The shipments made in 1875 to New Zealand. B. The shipments of fish ova in 1876 to New Zealand . . . Report, 1875-76 (1878), p. 959-1003. F16-77
 Creighton, R. J.: [Acclimatization of fish from the United States in New Zealand.] Bulletin, 1881 (1882), vol. I, p. 51-52.
 Farr, S. C.: Description of a California salmon (*Oncorhynchus* sp.) found in one of the rivers of New Zealand and identified by Dr. T. H. Bean. Bulletin, 1883 (1883), vol. III, p. 427. F18-161

SANDWICH ISLANDS.

- Enders, F. H.: [Carp sent to the Sandwich Islands.] Bulletin, 1884 (1884), vol. IV, p. 308.

TASMANIA.

- Allport, Morton:** Present stage of the salmon experiment in Tasmania. Report, 1878 (1880), p. 819-823. F16-184
Finn, W.: Can herring live and increase in inclosed waters? Bulletin, 1884 (1884), vol. IV, p. 333-335. F18-325

INDIVIDUAL SPECIES.

ALEWIFE.

- Baird, Spencer F.:** [Alewife should be propagated.] Report, 1872-73 (1874), p. LIX-LXI.
Bean, Tarlton Hoffman: Movements of young alewives (?) (*Pomolobus* sp.) in Colorado River, Texas. Bulletin, 1881 (1882), vol. I, p. 69-70. F18-27
 ——— Report on examination of Clupeoids from carp ponds. Bulletin, 1886 (1887), vol. VI, p. 441-442. F18-626
U. S. Bureau of Fisheries: [Culture of the alewives.] Report, 1897 (1898), p. 186-187; also in *Manual of fish-culture*, rev. ed., 1900, p. 186-187.

BASS.

- Arnold, Isaac:** Successful propagation of black bass. Bulletin, 1882 (1883), vol. II, p. 113-115. F18-85
Borne, Max von dem: Putting bass into carp ponds. Bulletin, 1885 (1885), vol. V, p. 359. F18-476
Leonard, William L.: [Raising black bass, silver bass, and crappies together.] Bulletin, 1885 (1885), vol. V, p. 465.
Lydell, Dwight: The habits and culture of the black bass. Bulletin, 1902 (1904), vol. XXII, p. 39-44, pl. 8. *Doc. 513 issued Feb. 26, 1903.* F12-57
McDonald, Marshall: [First systematic effort inaugurated at fish ponds for propagation of black bass.] Report, 1892 (1894), p. XXXVIII-XXXIX.
Page, William F.: The propagation of black bass in ponds. Bulletin, 1893 (1894), vol. XIII, p. 229-236. *Doc. 259 issued June 26, 1894.* F12-183
 ——— The black basses, crappies, and rock bass. Report, 1897 (1898), p. 159-177; also in *Manual of fish-culture*, rev. ed., 1900, p. 147-163.
Sharp, John: The large-mouthed black bass in Utah. Bulletin 1897 (1898), vol. XVII, p. 363-368. *Doc 395 issued Aug. 8, 1898.* F12-110
Smiley, Charles Wesley: Removal of bass from Indiana to North Carolina by the U. S. Fish commission. Bulletin, 1882 (1883), vol. II, p. 116. F18-86
Smith, Hugh McCormick: [History and results of the attempts to acclimatize bass.] Bulletin, 1895 (1896), vol. XV, p. 449-458, pl. 81-83.
U. S. Bureau of Fisheries: The striped bass. Report, 1897 (1898), p. 185-186; also in *Manual of fish-culture*, rev. ed., 1900, p. 187-190.
U. S. Commissioner of Fisheries: [Small-mouth black bass.] Bulletin, 1885 (1885), vol. V, p. 347.
 ——— [Black bass spawn for the first time in ponds at Wytheville.] Report, 1888-89, (1892) p. XXIX.
 ——— [Description of artificial tests used at Wytheville.] Report, 1896 (1898), p. 48.
 ——— [Culture of black bass at fish ponds.] Report, 1893 (1895), p. 97; 1894 (1896), p. 36; 1895 (1896), p. 25; 1896 (1898), p. 42-44; 1897 (1898) p. 4; 1898 (1899), p. LXIV; 1899 (1900), p. LXIII-LXIV.

BUFFALOFISH.

- Farrington, John:** [Cultivating buffalofish.] Bulletin, 1885 (1885), vol. V, p. 338.
Mosher, A. A.: Propagating buffalofish. Bulletin, 1885 (1885), vol. V, p. 190. F18-403
U. S. Commissioner of Fisheries: [Experimental propagation of buffalofish.] Report, 1912 (1914), p. 50-51.

CARP.

- Baird, Spencer F.:** [Advantages of carp as a food fish.] Report, 1877 (1879), p. 40-44.
 ——— [Description of "Babcock Lake" and first carp culture there.] Report, 1878, (1880), p. XL-XLII.
 ——— [Danger of confusing pure German carp with the poor hybrids of native waters.] Bulletin, 1884 (1884), vol. IV, p. 305-306.
 ——— [The carp reared by the U. S. Fish commission in 1878.] Bulletin, 1884 (1884), vol. IV, p. 307-308.

- Barnes, A. G.:** Growth and spawning of German carp in Alabama. Bulletin, 1881 (1882), vol. I, p. 424-425. F18-56
- Behr, Friedrich von:** Management of spawning carp. Bulletin, 1883 (1883), vol. III, p. 392. F18-148a
- Benecke, Berthold:** Utilizing water by fish-culture (carp). Report, 1883 (1885), p. 1101-1131. F11-247
- Bettoni, Eugenio:** [Carp culture at the fish-cultural establishments of central Europe.] Report, 1886 (1889), p. 565-569.
- Borne, Max von dem:** Raise carp: Report, 1880 (1883), p. 673-680. F16-274
- How to raise carp and other pond fish which spawn in summer. Report, 1883 (1885), p. 1133-1142. F11-248
- A large catch of carp. Bulletin, 1886 (1887), vol. VI, p. 116. F18-554
- Brakeley, John H.:** Notes on carp and frog culture. Bulletin, 1885 (1885), vol. V, p. 209-216. F18-409
- [Time required to hatch carp eggs.] Bulletin, 1885 (1885), vol. V, p. 338.
- [Time required for hatching carp eggs.] Bulletin, 1886 (1887), vol. VI, p. 135-136.
- Rapid growth of carp due to abundance of food. Bulletin, 1887 (1889), vol. VII, p. 20. F20-639
- [The **Carp** fisheries in the Peetz Lakes.] Report, 1878 (1880), p. 675-678.
- Carp** in France. Bulletin, 1886 (1887), vol. VI, p. 203-204. F18-574
- [**Carp** planted in Arkansas and Red rivers.] Bulletin, 1885 (1885), vol. V, p. 104.
- [Cause and cure of muddy flavor in fish.] Bulletin, 1884 (1884), vol. IV, p. 305.
- Cary, H. H.:** Period of incubation of eggs of German carp. Bulletin, 1883 (1883), vol. III, p. 447. F18-179
- Cole, Leon Jacob:** The German carp in the United States. (Bibliography: p. 637-641.) Report, 1904 (1905), p. 523-641, illus., 111 pl. *Doc. 592 issued Dec. 30, 1905.* F12-327
- On the culture of carp. A. On carp ponds, by A. F. B. Carp-culture in East Prussia, by R. Strüvy. C. Carp ponds (from *Landwirtschaft und industrie* Berlin, 1875, Tr. by C. F. Himes). Report, 1873-74 and 1874-75 (1876), p. 549-558.
- Davis, H. B.:** Gratifying results of propagating German carp. Bream and carp in ponds together. Table qualities of carp. Bulletin, 1882 (1883), vol. II, p. 317-318. F18-109
- Donaldson, R. J.:** [Shipment of adult carp to South Carolina.] Bulletin, 1884 (1884), vol. IV, p. 310.
- Raising carp in rice fields. Bulletin, 1885 (1885), vol. V, p. 283-284. F18-440
- Eben-Bauditten:** On carp-culture, chiefly in its relation to agriculture. Report, 1878 (1880), p. 667-670. F16-174
- Eckardt, George:** Carp propagation and blue carp. Bulletin, 1882 (1883), vol. II, p. 168. F18-96
- Eckardt-Lübbinchen, R.:** Report on the propagation and growth of carp. Report, 1879 (1882), p. 671-673. F17-17
- Finsch, Otto:** Report on the transportation of a collection of living carp from Germany. Report, 1879 (1882), p. 667-670. F17-16
- Report on a trip in Germany to secure carp for the United States Fish commission. Bulletin, 1881 (1882), vol. I, p. 220-225. F18-43
- Gaines, Kemp:** Growth, spawning, and distribution of German carp reared from 20 fish furnished by the U. S. Fish commission, November 29, 1880. Bulletin, 1882 (1883), vol. II, p. 392. F18-111
- Gasch, Adolph:** Pond-cultivation on the Kaniów estate (District of Biala, Galicia), the property of his imperial highness, Archduke Albrecht of Austria. Report, 1880 (1883), p. 533-543. F16-282
- Pond culture—The food and spawning of carp. Report, 1883 (1885), p. 1143-1150. F17-41
- Gillespie, Samuel:** Growth and food of carp. Bulletin, 1882 (1883), vol. II, p. 300. F18-105
- Gross, Julius:** Description of carp ponds and water gate. Bulletin, 1886 (1887), vol. VI, p. 303-304, illus. F18-600
- Hessel, Rudolph:** The carp and its culture in rivers and lakes; and its introduction into America. Report, 1875-76 (1878), p. 865-900. *Doc. 27 issued Apr. 20, 1881.* F12-218
- Notes from the carp ponds. Bulletin, 1885 (1885), vol. V, p. 435. F18-498
- Heyser, E.:** Growth of mirror carp sent to Georgia by the United States Fish commission. Bulletin, 1882 (1883), vol. II, p. 18. F18-67

- Johnson, August, and A. Marchant:** [Carp wanted in Tasmania.] Bulletin, 1886 (1887), vol. VI, p. 451-452.
- Johnson, Samuel:** Growth of German carp sent to Savoy, Texas, by the U. S. Fish commission. Bulletin, 1882 (1883), vol. II, p. 14. F18-64
- Kabler, N. D.:** [Price of carp.] Bulletin, 1884 (1884), vol. IV, p. 366.
- Knauth, Karl:** Two fertile cyprinoid hybrids. Bulletin, 1894 (1895), vol. XIV, p. 31-41. *Doc. 234 issued Mar. 24, 1894.* F12-180
- Leach, G. C.:** The artificial propagation of carp. 19 p., illus. *Economic Circular 39 issued Jan. 18, 1919.* F19-1
- Leonhardt, G.:** Information concerning the blue carp. Bulletin, 1882 (1883), vol. II, p. 15. F18-66
- McClelland, Samuel:** [Other fish mistaken for carp.] Bulletin, 1885 (1885), vol. V, p. 347.
- McDonald, Marshall:** Report on the distribution of carp. Report, 1881 (1884), p. 1121-1126; 1882 (1884), p. 915-942. F16-316
- Distribution of German carp by the United States Fish commission. Bulletin, 1882 (1883), vol. II, p. 94. F12-349
- [Carp planted in Rivanna River.] Bulletin, 1885 (1885), vol. V, p. 342.
- Macgowan, D. J.:** Carp culture in China. Bulletin, 1885 (1885), vol. V, p. 235-241. F18-415
- Maryland Commission of Fisheries:** Directions concerning the construction of carp ponds. (Condensed from the report of the Maryland Fish commission for 1880.) Bulletin, 1883 (1883), vol. III, p. 249-256, illus. F11-312
- Medary, Charles S.:** [Prices of scale and mirror carp.] Bulletin, 1884 (1884), vol. IV, p. 307.
- Metcalf, Martin:** [Distinguishing the sex of carp.] Bulletin, 1886 (1887), vol. VI, p. 457.
- Morriss, T. W.:** Spawning of carp in a small basin, at Brenham, Texas. Bulletin, 1882 (1883), vol. II, p. 27. F18-72
- Muth, H. W. C.:** [Price-list of carp, goldfish, and silverfish.] Bulletin, 1884 (1884), vol. IV, p. 307.
- Nicklas, Carl:** Production of young fry of the carp. Bulletin, 1883 (1883), vol. III, p. 401-406. F12-402
- Page, George Shepard:** [Carp planted in Passaic River.] Bulletin, 1886 (1887), vol. VI, p. 316.
- Palmer, B. D.:** Carp appear February 7, take the hook, and are excellent eating. Bulletin, 1884 (1884), vol. IV, p. 124. F18-244
- Pasco, I. D.:** A call for carp from Nevada. Bulletin, 1881 (1882), vol. I, p. 29-30. F18-13
- Phillipps, Barnet:** Holland carp put into the Hudson River about 1830. Bulletin, 1882 (1883), vol. II, p. 25. F18-70
- Pigg, L. H.:** [Carp for sale.] Bulletin, 1884 (1884), vol. IV, p. 456.
- Poppe, Robert A.:** The introduction and culture of the carp in California. Report, 1878 (1880), p. 661-666. F16-173
- Progress and results of fish culture. German carp.** Bulletin, 1881 (1882), vol. I, p. 396. F20-139
- Redding, Joseph D.:** Character of the carp introduced by Captain Henry Robinson about 1830 in United States. Bulletin, 1884 (1884), vol. IV, p. 266-267. F18-308
- Simmons, Newton:** [Carp planted in Tallapoosa River.] Bulletin, 1885 (1885), vol. V, p. 104.
- Smiley, Charles W.:** Answers to one hundred and eighteen questions relating to German carp. Bulletin, 1883 (1883), vol. III, p. 241-248. F11-312
- The German carp and its introduction into the United States. Bulletin, 1883 (1883), vol. III, p. 333-336. F11-311
- Report on the distribution of carp to July 1, 1881, from the young reared in 1879 and 1880. Report, 1882 (1884), p. 943-988 incl. tables. F11-308
- How to distinguish the sex of carp. Bulletin, 1885 (1885), vol. V, p. 36-37. F18-373
- Some results of carp culture in the United States. Report, 1884 (1886), p. 657-890. *Doc. 112 issued Dec. 1, 1886.* F11-259
- Smith, Hugh McCormick:** [Introduction of carp to the Pacific States and Rocky mountain regions.] Bulletin 1895 (1896), vol. XV, p. 393-403, pl. 75.
- Smithers, E. J.:** Carp culture in China. Bulletin, 1885 (1885), vol. V, p. 249-250. F18-421
- Stabler, Edward:** Growth and protection of carp from turtles, etc. Bulletin, 1883 (1883), vol. III, p. 127-128. F18-120

- Stabrowski, Xaver von:** Carp culture in Germany. Bulletin, 1886 (1887), vol. VI, p. 57-59. F18-533
- Steedman, I. G. W.:** [Stocking streams with carp.] Bulletin, 1885 (1885), vol. V, p. 104. F18-355
- Stocking the Stettiner Haff with carp.** Bulletin, 1882 (1883), vol. II, p. 1-8. F18-494
- Stover, E. S.:** Rearing carp in alkaline water. Bulletin, 1884 (1884), vol. IV, p. 426-427. F18-355
- Raising carp in a supposed alkaline water. Bulletin, 1885 (1885), vol. V, p. 427-428. F18-494
- Texas farm and ranch:** The carp ponds belonging to the State of Texas. Bulletin, 1884 (1884), vol. IV, p. 230-231. F18-293
- Treskow-Weissagk:** What dangers threaten the products of the old pond carp fisheries from artificial fish culture? Bulletin, 1883 (1883), vol. III, p. 303-304. F18-142
- Trybom, Filip, i. e., Arvid Filip:** Carp culture in Sweden. Bulletin, 1886 (1887), vol. VI, p. 156-160. F18-565
- Van Antwerp, W.:** Growth, spawning, edible qualities and manner of cooking German carp received from the U. S. Fish commission in 1880. Bulletin, 1882 (1883), vol. II, p. 300. F18-106
- Veckenstedt, Edm.:** On the carp ponds of Nether Lusatia. Report, 1878 (1880), p. 671-674. F16-175
- Wheeler, L. T.:** A new method of protecting the eggs of carp and rearing the young. Bulletin, 1884 (1884), vol. IV, p. 221-222. F18-291
- White, C. M.:** Ability of carp to endure muddy, slimy, and stagnant water. Bulletin, 1883 (1883), vol. III, p. 444. F18-176
- Worth, Stephen G.:** Shad hatching and carp culture. Bulletin, 1882 (1883), vol. II, p. 26-27. F18-71
- The selection of sites and the construction of carp ponds. Bulletin, 1884 (1884), vol. IV, p. 33-37.
- Wright, Abel A.:** A Georgia carp pond. Bulletin, 1881 (1882), vol. I, p. 68-69.
- Yoakum, F. L.:** Carp culture in Texas. Bulletin, 1882 (1883), vol. II, p. 28-32. F12-343
- Yost, John:** Report upon the management of German carp by a Mississippi correspondent. Bulletin, 1882 (1883), vol. II, p. 310. F18-108
- Zenk, F.:** A German view of American carp culture. (Tr. from the German by Herman Jacobson.) Bulletin, 1885 (1885), vol. V, p. 102-104.

CATFISH.

- Anthony, O. C.:** [Speckled catfish in North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 404.
- Gardner, A. P.:** Experiments in the pond culture of trout, suckers, and catfish. Bulletin, 1883 (1883), vol. III, p. 417-430. F18-157
- Hay, Naman:** [Cultivating catfish.] Bulletin, 1886 (1887), vol. VI, p. 137.
- Jones, J. F.:** The speckled catfish. Bulletin, 1884 (1884), vol. IV, p. 321-322. F18-323
- Jordan, David Starr:** Proposed propagation of catfish as a food-fish. Bulletin, 1884 (1884), vol. IV, p. 292. F18-316
- Kendall, William Converse:** American catfishes: habits, culture, and commercial importance. Report and special papers, 1908 (1910), 39 p., X pl. *Doc. 733 issued Aug. 23, 1910.* 10-35947
- Lefebvre, Alfred:** The proposed introduction of American catfish into the rivers of Belgium. Bulletin, 1882 (1883), vol. II, p. 153-154. F18-93
- McDonald, Marshall:** Transferring catfish from the Potomac to the Colorado River, Arizona. Bulletin, 1884 (1884), vol. IV, p. 212. F18-287
- Smiley, Charles Wesley:** Sending catfish to Europe. Bulletin, 1885 (1885), vol. V, p. 433-435. F18-497
- Smith, Hugh McCormick:** [Introduction of the catfish to the Pacific States.] Bulletin, 1895 (1896), vol. XV, p. 382-393, pl. 74-75.
- Smith, Hugh McCormick, and Leighton G. Harron:** Breeding habits of the yellow catfish. Bulletin, 1902 (1904), vol. XXII, p. 149-154. *Doc. 517 issued Mar. 30, 1903.* F12-61
- U. S. Commissioner of Fisheries:** [Spotted catfish spawn at fish ponds.] Report, 1892 (1894), p. XXXIX.
- Willequet, E.:** Fish-culture in Belgium. Bulletin, 1883 (1883), vol. III, p. 218-221. F12-391

COD.

- The artificial raising of cod in America. Bulletin, 1883 (1883), vol. III, p. 428.
- Atkins, Charles G.: Report on the artificial propagation of codfish at Woods Hole, Mass., for the season of 1886-87. Report, 1886 (1889), p. 783-791.
- Baird, Spencer F.: [Experiments instituted for the artificial propagation of the cod.] Report, 1878 (1880), p. XLIII.
- [Shipment of young codfish from Woods Hole to Pensacola.] Report, 1886 (1889), p. XXIX.
- Carswell, James: Report on the artificial propagation of the codfish at Woods Hole, Mass., for the season of 1885-86. Report, 1886 (1889), p. 779-782.
- Collins, William Joseph: [Codfish planted in Cape Cod Bay.] Bulletin, 1886 (1887), vol. VI, p. 411.
- Dannevig, G. M.: Hatching lobsters and cod in Norway. Bulletin, 1886 (1887), vol. VI, p. 13-14. F18-526
- Dunn, Matthias: Number of eggs in the Gadidae. Bulletin, 1884 (1884), vol. IV, p. 762. F18-228
- Earl, R. Edward: A report on the history and present condition of the shore codfisheries of Cape Ann, Mass., together with notes on the natural history and artificial propagation of the species. Report, 1878 (1880), p. 685-740. Doc. 33 issued Jan. 27, 1881. F11-221
- McDonald, Marshall: Experimental investigations upon cod hatching at Woods Hole, Mass., during the winter of 1880-81. Report, 1881 (1884), p. 1127-1129, illus. F16-437
- [Cod propagation experiments at Central station.] Report, 1882 (1884), p. 883.
- Mather, Fred: [Hatching tomcod.] Bulletin, 1885 (1885), vol. V, p. 467.
- Rathbun, Richard: [Incipency of cod hatching by the fish commission.] Report, 1888-89 (1891), p. XCIII-XCV.
- Rognerud, Carl: Hatching cod in Norway. Bulletin, 1887 (1889), vol. VII, p. 113-119. F18-660
- Ryder, John Adam: A contribution to the embryography of osseous fishes, with special reference to the development of the cod (*Gadus morrhua*). Report, 1883 (1885), p. 455-605, XII pl. Doc. 71 issued May 17, 1884. F11-275
- Smith, Hugh McCormick: Notes on the tagging of four thousand adult cod at Woods Hole, Massachusetts. Report, 1901 (1902), p. 193-208. F11-20
- Tanner, Zera Luther: [Experiments in cod hatching conducted on *Fish Hawk*.] Report, 1882 (1884), p. 3-4.
- Tarr, Ralph Stockman: Return to Gloucester Harbor of the young codfish hatched by the U. S. Fish commission. Bulletin, 1884 (1884), vol. IV, p. 57-58. F18-219
- U. S. Bureau of Fisheries: [Circulation methods used in cod hatching.] Report, 1896 (1898), p. 25.
- The cod. Report, 1897 (1898), p. 193-207, 222-223; also in Manual of fish-culture, rev. ed., 1900, p. 195-209, 224-225.

CRAPPIE.

- Bartlett, Sylvester P.: The cultivation of crappies in ponds. Bulletin, 1883 (1883), vol. III, p. 362. F18-146

EELS.

- Eels in tanks and ponds. Bulletin, 1886 (1887), vol. VI, p. 91-92. F18-545
- Goode, George Brown: [Artificial propagation of the lamprey.] Bulletin, 1882 (1883), vol. II, p. 353.
- Hermes, Otto: The propagation of the eel. Report, 1879 (1882), p. 457-462, illus. F17-2
- Norny, E. R.: Artificial propagation of rockfish and eels. Bulletin, 1885 (1885), vol. V, p. 315. F18-461
- Riddle, George W.: Restocking the Merrimac River with lamprey eels. Bulletin, 1885 (1885), vol. V, p. 320. F18-464

FLOUNDER.

- Rathbun, Richard L.: [Little known of the breeding habits of the flounder.] Report, 1889-1891 (1893), p. 161.
- U. S. Bureau of Fisheries: The flatfish, or winter flounder. Report 1897 (1898), p. 215-218; also in Manual of fish-culture, rev. ed., 1900, p. 217-220.

GOLDFISH.

- Clark, Frank N.: [Breeding Japanese goldfish.] Bulletin, 1885 (1885), vol. V, p. 267.
- Elliott, Henry W.: [Breeding goldfish.] Bulletin, 1885 (1885), vol. V, p. 467.

- Hessel, Rudolph:** Notes on the habits of the golden ide (*Idus auratus*). Bulletin, 1885 (1885), vol. V, p. 254-255. F18-424
- Kirsch, M.:** The gold orfe (*Cyprinus orfus*). A. On the raising of the "gold orfe" (*Cyprinus orfus*), by M. Kirsch. B. Correspondence relating to the gold-orfe, by C. Th. E. v. Siebold. Report, 1873-74 and 1874-75 (1876), p. 559-562. F16-29
- Macgowan, Daniel J.:** Carp culture in China. Bulletin, 1885 (1885), vol. V, p. 235-240. F18-415
- Matsubara, Shinnosuke:** Goldfish and their culture in Japan. Bulletin, 1908 (1910), vol. XXVII, p. 381-397, col. pl. XVIII-XXVII. Doc. 666 issued Feb. 26, 1910. 10-35172
- Mr. Christian Wagner's** establishment for raising goldfish, at Oldenberg, Germany. Report, 1878 (1880), p. 679-684. F16-177
- Ryder, John Adam:** Care of goldfish. Queries of William Rosenstihl, jr., with replies. Bulletin, 1884 (1884), vol. IV, p. 381-382. F18-339

GRAYLING.

- Baird, Spencer F.:** [Credit for first impregnating and hatching grayling due Martin Metcalf.] Report, 1885 (1887), p. LXXXII.
- Henshall, James Alexander:** The graylings. In Manual of fish-culture, rev. ed., 1900, p. 106-108.
- Culture of the Montana grayling. Report and special papers, 1906 (1908), 7 p. Doc. 628 issued Dec. 11, 1907. 7-35451
- Ravenel, William de Chastignier:** [Experiments in grayling culture.] Report, 1898 (1899), p. XCII.

HERRING.

- Baird, Spencer F.:** [Propagation of sea herring of economic importance.] Report, 1877 (1879), p. 44-46.
- [Experiments in hatching Potomac herring (*Clupea vernalis*).] Report, 1882 (1884), p. LXXVII.
- Ewart, J. Cossar:** On the natural and artificial fertilization of sea herring eggs. Bulletin, 1884 (1884), vol. IV, p. 193-197. F13-95
- [Transferring fertilized herring eggs to spawning beds.] Bulletin, 1884 (1884), vol. IV, p. 316.
- Ljungman, Axel Vilhelm:** Preliminary report for 1873-74 on the herring fisheries on the west coast of Sweden. Report, 1873-74 and 1874-75 (1876), p. 123-168. F16-8
- The propagation and growth of the herring, with special regard to the coast of Bohuslan. Report, 1878 (1880), p. 639-659. F16-172
- Meyer, Heinrich Adolf:** Biological observations made during the artificial raising of herrings in the western Baltic. Report, 1878 (1880), p. 629-638. F16-189
- U. S. Bureau of Fisheries:** [The sea herring.] Report, 1897 (1898), p. 225; also in Manual of fish-culture, rev. ed., 1900, p. 227-228.
- U. S. Commissioner of Fisheries:** [Successful experiment in hatching sea herring by Vinal Edwards.] Report, 1877 (1879), p. 45.

MACKEREL.

- Earll, Robert Edward:** [Artificial propagation of the Spanish mackerel.] Report, 1880 (1883), p. 416-424.
- Hatching blackfish and Spanish mackerel. Bulletin, 1884 (1884), vol. IV, p. 415-416. F18-353
- Hind, H. G.:** [Causes of the alleged annual variations in the number of mackerel observed.] Report, 1881 (1884), p. 125-127.
- Kite, J. Alban:** Report upon apparatus and facilities needed for hatching Spanish mackerel. Report, 1883 (1885), p. 1095-1100, illus. F17-40
- McDonald, Marshall:** Spanish mackerel investigations at Cherrystone, Va., during the summer of 1881. Report, 1881 (1884), p. 1131-1133. F16-348
- Moore, John Percy:** Report on mackerel investigations in 1897. Report, 1898 (1899), p. 1-22. Doc. 399 issued Mar. 28, 1899. F11-111
- Rathbun, R. L.:** [Spawning season of the mackerel.] Report, 1895 (1896), p. 80-81.
- Ryder, John A.:** Development of the Spanish mackerel (*Cybium maculatum*). Bulletin, 1881 (1882), vol. I, p. 135-173, IV pl. F12-317
- U. S. Bureau of Fisheries:** [Report on the propagation of mackerel.] Report, 1895 (1896), p. 17; 1896 (1898), p. 26 and 30; 1897 (1898), p. XXXIV and XXXVII; 1899 (1900), p. LVIII.
- The common mackerel. Report, 1897 (1898), p. 209-213; also in Manual of fish-culture, rev. ed., 1900, p. 211-215
- [The Spanish mackerel.] Report, 1897 (1898), p. 220-222; also in Manual of fish-culture, rev. ed., 1900, p. 222-224.

Wood, William Maxwell: Report of operations in hatching Spanish mackerel in Chesapeake Bay by the steamer *Fish Hawk* during the summer of 1883. Report, 1883 (1885), p. 1089-1094, illus. F17-39

MENHADEN.

Goode, George Brown: [Feasibility of artificial culture of American menhaden.] Report, 1877 (1879), p. 100.
 McDonald, Marshall: [Menhaden an inshore spawner.] *Quotes* Vinal Edwards. Report, 1892 (1894), p. IX.
 Rathbun, Richard: [Important discoveries relating to the spawning habits of the menhaden, made by Vinal Edwards.] Report, 1892 (1894), p. CX.

MULLET.

Hoxie, Walter: Occurrence of mullet in fresh water. Bulletin, 1884 (1884), vol. IV, p. 80. F18-229
 Miller, John F.: Proposed introduction of Hawaiian mullet into the United States. Bulletin, 1884 (1884), vol. IV, p. 141-142. F18-250
 Moser, Jefferson F.: [Raising mullet in Hawaii.] Report, 1897 (1898), p. CLXIX-CLXX.
 Rathbun, Richard: [Propagation of the mullet.] Report on the inquiry respecting food fishes and the fishing grounds. Report, 1888-89 (1892), p. LVIII-LIX.
 Ravenel, W. DeC.: Information bearing upon the artificial propagation of mullet. Bulletin, 1887 (1889), vol. VII, p. 197-202. F18-667

PERCH.

U. S. Bureau of Fisheries: [The yellow perch.] Report, 1897 (1898), p. 182-184, also in *Manual of fish-culture*, rev. ed., 1900, p. 184-186.
 Worth, Stephen G.: Observations on the hatching of the yellow perch. Bulletin, 1890 (1892), vol. X, p. 331-334. *Doc. 201 issued Sept. 24, 1892.* F12-120

PIKE PERCH.

Stranahan, J. J.: [Preventing the sticking together of adhesive eggs.] Report, 1894 (1896), p. 38-39.
 ——— The pike perch or wall-eyed pike. In *Manual of fish-culture*, rev. ed., 1900, p. 165-179.

ROCKFISH.

Low, W. F.: [Penning rockfish at Battery station.] Bulletin, 1884 (1884), vol. IV, p. 320.
 Mason, Harry W.: Report of operations on the Navesink River, New Jersey, in 1879, in collecting living striped bass for transporting to California. Report, 1879 (1882), p. 663-666. F17-15
 Norny, E. R.: On the propagation of the striped bass. Bulletin, 1881 (1882), vol. I, p. 67-68. F18-25
 ——— A proposed pond for rearing striped bass (*Roccus lineatus*) in Delaware Bay. Bulletin, 1881 (1882), vol. I, p. 260-261. F18-48
 ——— Artificial propagation of rockfish and eels. Bulletin, 1885 (1885), vol. V, p. 315. F18-461
 Rathbun, Richard: [Experiments respecting the spawning of sea bass.] Report, 1889-91 (1893), p. 157.
 Throckmorton, S. R.: The introduction of striped bass into California. Bulletin, 1881 (1882), vol. I, p. 61-52. F18-21
 U. S. Bureau of Fisheries: [Hatching and planting rockfish.] Bulletin, 1886 (1887), vol. VI, p. 137.
 ——— [Station provided for cultivation of rockfish at Neosho.] Report, 1887 (1891), p. XXXVII.
 U. S. Commissioner of Fisheries: [Successful experiments in hatching striped bass by M. G. Holton.] Report, 1872-73 (1874), p. XLVII.
 ——— [Striped bass successfully propagated.] Report, 1879 (1882), p. XXXVIII.
 ——— [Propagation of rockfish at Weldon, N. C.] Report, 1884 (1886), p. XLVIII.
 Worth, Stephen G.: The artificial propagation of the striped bass (*Roccus lineatus*) on Albemarle Sound. Bulletin, 1881 (1882), vol. I, p. 174-177. F18-34
 ——— Report upon the propagation of striped bass at Weldon, N. C., in the spring of 1884. Bulletin, 1884 (1884), vol. IV, p. 225-231. F13-100
 ——— Prospectus of striped bass operations for the season of 1885. Bulletin, 1885 (1885), vol. V, p. 35-36. F18-371

SALMON.

- Allport, Morton:** Present stage of the salmon experiments in Tasmania. Report, 1878 (1880), p. 819-823. F16-184
- Anderson, John:** [Salmon in Scotland and shipments to New Zealand.] Bulletin, 1886 (1887), vol. VI, p. 309. F16-39
- Atkins, Charles G.:** On the salmon of eastern North America, and its artificial culture. Report, 1872-73 (1874), p. 226-337. F15-99
- Report on the collection and distribution of Penobscot salmon. In 1873-74 and 1874-75. Report, 1873-1875 (1876), p. 485-530, tables. F16-25
- On the collection of eggs of Schoodic salmon. Report, 1875 and 1876 (1878), p. 910-919; 1877 (1879), p. 817-846; 1878 (1880), p. 789-814; 1880 (1883), p. 633-651; 1882 (1884), p. 863-871; 1883 (1885), p. 1011-1015; 1884 (1886), p. 177-179 and 181-187; 1885 (1887), p. 145-156; 1886 (1889), p. 751-759.
- Report on an attempt to collect eggs of Sebago salmon in 1878. Report, 1878 (1880), p. 775-787. F16-181
- Report on the propagation of Penobscot salmon. Report, 1879 (1882), p. 721-731 incl. tables; 1880 (1883), p. 623-631; 1881 (1884) p. 1085-1089, 1091-1105; 1883 (1885), p. 1007-1009; 1884 (1886), p. 177-179; 1885 (1887), p. 141-144; 1886 (1889), p. 747-749.
- Sketch of the Penobscot salmon-breeding establishment. Bulletin, 1882 (1883), vol. II, p. 373-378. F12-374
- Sketch of the schoodic salmon-breeding establishment. ("Written by request of Prof. S. F. Baird for the London exhibition, 1883.") Bulletin, 1882 (1883), vol. II, p. 379-382. F12-375
- Memoranda relative to inclosures for the confinement of salmon, drawn from experience at Bucksport, Penobscot River, Maine. Bulletin, 1884 (1884), vol. IV, p. 170-174. F13-92
- Memoranda on landlocked salmon. Bulletin, 1884 (1884), vol. IV, p. 341-344. F13-112
- The Penobscot and schoodic salmon work in 1884-1885. Bulletin, 1885 (1885), vol. V, p. 51; 323-324. F18-377
- Methods employed at Craig Brook station in rearing young salmonoid fishes. Bulletin, 1893 (1894), vol. XIII, p. 221-228. Doc. 258 issued June 26, 1894. F12-183
- [Propagation of salmon at Craig Brook.] Report, 1894 (1896), p. 21.
- The Atlantic and landlocked salmons. Report, 1897 (1898), p. 27-70, also in Manual of fish-culture, rev. ed., 1900, p. 17-60.
- Barber, C. H.:** Success in raising landlocked salmon. Bulletin, 1884 (1884), vol. IV, p. 87. F18-233
- Bean, Tarleton Hoffman:** Notes on a shipment by the United States Fish commission of California salmon (*Oncorhynchus chouicha*) to Tanners Creek, Indiana, in 1876. Bulletin, 1881 (1882), vol. I, p. 204-205. F18-38
- Account of a shipment by the U. S. Fish commission of California salmon-fry (*Oncorhynchus chouicha*) to southern Louisiana, with a note on some collection made at Tickfaw. Bulletin, 1881 (1882), vol. I, p. 205-206. F18-39
- Artificial propagation of the salmon in Alaskan waters. Bulletin, 1889 (1891), vol. IX, p. 207-208.
- Bettoni, Eugenio, and Decio Vinciguerra:** [Salmon and trout culture in Europe.] Report, 1886 (1889), p. 539-565.
- Bottemanne, C. J.:** Penning of salmon in order to secure their eggs. Bulletin 1884 (1884), vol. IV, p. 169. F18-265
- [Inclosures for salmon in the Netherlands.] Bulletin, 1886 (1887), vol. VI, p. 129-130.
- Bower, Ward T.:** [Fish culture in Alaska: p. 66-88.] In Alaska fisheries and fur industries in 1911, by B. W. Evermann. Report, and special papers, 1911 (1913), 90 p. Doc. 766 issued Dec. 16, 1912.
- [Salmon hatcheries operated in Alaska.] Appendix VII, Report, 1918 (1920), p. 35-38; Appendix IX, Report, 1919 (1920), p. 34-36.
- Bower, Ward Taft, and Henry D. Aller:** [Salmon hatcheries operated in Alaska.] Appendix IX, Report, 1914 (1915), p. 18-27; Appendix III, Report, 1915 (1917), p. 21-28; Appendix II, Report 1916 (1917), p. 29-37; Appendix II, Report, 1917 (1919), p. 23-27.
- Bower, Ward Taft, and H. C. Fassett:** [Salmon hatcheries operated in Alaska in 1913: p. 66-76.] In Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914).
- Brice, John J.:** Establishment of stations for the propagation of salmon on the Pacific coast. Report, 1893 (1895), p. 387-392. Doc. 314 issued 1896. 12-17363

- Chamberlain, Fred M., and Ward T. Bower: [Salmon hatcheries operated in Alaska: p. 31-37.] *In* Fishery and fur industries of Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.*
- Cheney, A. Nelson: The Hudson River as a salmon stream. Bulletin, 1897 (1898), vol. XVII, p. 247-251. *Doc. 376 issued Aug. 8, 1898.*
- Salmon in the Hudson River. Bulletin, 1886 (1887), vol. VI, p. 351-352. F18-610.
- Clark, Frank N.: [Propagation of salmon at the United States hatchery, Northville, Michigan.] Report, 1881 (1884), p. 1053-1055; 1882 (1884), p. 820-821; 1883 (1885), p. 981; 1885 (1887), p. 110-112.
- Cobb, John Nathan: Salmon fisheries of the Pacific coast. (Salmon culture in Oregon: p. 154.) Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25 1911.* F11-393
- Collins, John D.: Propagation of salmon in Salmon River, Oswego County, New York. Bulletin, 1885 (1885), vol. V, p. 287-288. F18-442
- Day, Francis: On the rearing, growth, and breeding of salmon in freshwater in Great Britain. Bulletin, 1885 (1885), vol. V, p. 307-308. F18-452
- Duncan, J. Barker: Salmon and trout hatcheries in Scotland. Bulletin, 1885 (1885), vol. V, p. 451-456. F18-508
- Dunn, Horace D.: Do the spawning salmon ascending the Sacramento River all die without returning to the sea? Report, 1878 (1880), p. 815-818. F16-183
- Finely, Charles I.: A new salmon hatchery. Bulletin, 1884 (1884), vol. IV, p. 88. F18-236
- Further report of R. D. Hume's salmon hatchery, Oregon. Bulletin, 1884 (1884), vol. IV, p. 174. F18-266
- [First breeding of salmon and trout in Canada.] Bulletin, 1884 (1884), vol. IV, p. 362.
- Green, Loren W.: [Note from the McCloud River station.] Bulletin, 1885 (1885), vol. V., p. 343.
- Salmon in the McCloud River during the season of 1886. Bulletin 1886 (1887), vol. VI, p. 334-336.
- Green, Seth: The introduction of landlocked salmon into Woodhull Lake, New York, and the subsequent capture of some of them. Bulletin, 1881 (1882), vol. I, p. 421. F18-55.
- Haack, Hermann: Raising salmonoids in inclosed waters. Report, 1879 (1882), p. 675-685. F17-18
- Treatment of young salmonoids and coregoni from the time they leave the egg until they are fully developed and can be placed in open waters. Report, 1879 (1882), p. 687-693. F17-19
- Harper, John A.: [Planting landlocked salmon in Pennsylvania.] Bulletin, 1886 (1887), vol. VI, p. 138.
- Hodge, E. B.: Culture of landlocked and Penobscot salmon in New Hampshire. Bulletin, 1885 (1885), vol. V, p. 423-424. F18-490
- [Landlocked salmon eggs from Lake Sunapee.] Bulletin, 1886 (1887), vol. VI, p. 453.
- Hubbard, W. B.: Report of the salmon-hatching operations in 1878, at Clackamas hatchery. Report, 1878 (1880), p. 771-772.
- [Landlocked and Penobscot salmon planted.] Bulletin, 1886 (1887), vol. VI, p. 464.
- Lincoln, Benjamin: [Hatching salmon at Dennysville, Maine.] Bulletin, 1884 (1884), vol. IV, p. 314.
- Loomis, Watts T.: A landlocked salmon caught in Erie Canal. Bulletin, 1884 (1884), vol. IV, p. 288. F18-312
- McDonald, Marshall: [Distribution of salmon eggs by the U. S. Fish commission from January 1, 1886, to June 30, 1887.] Report, 1886 (1889), p. 836-837.
- Maitland, Sir James Gibson, bart.: [Report on schoodic salmon sent to Scotland.] Bulletin, 1885 (1885), vol. V, p. 81-82.
- Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1910. (Hatcheries: p. 11-12.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263
- Mather, Fred: Report upon the results of salmon planting in the Hudson River. Bulletin, 1887 (1889), vol. VII, p. 409-424. F18-678
- O'Malley, Henry: Artificial propagation of the salmon of the Pacific coast. Revised and enlarged. Appendix II, Report, 1919 (1921), 32 p., illus., IX pl. *Doc. 879 issued Jan. 8, 1920.* F20-153
- Perrin, M. L.: [Overland journey of eggs.] Report, 1873-75 (1876), p. 449-459.
- Pratt, K. B.: Report of salmon-hatching operations on Rogue River, Oregon, 1877-78. Report, 1878 (1880), p. 773-774. F16-180

- Rathbun, Richard:** [Salmon planting in the Hudson River.] Report, 1888-89 (1892), p. LXVII-LXIX.
- [Propagation of the sockeye and quinnat salmons.] Report, 1899 (1900), p. 272-274.
- Raveret-Wattel, and Bartet:** Reproduction of California salmon in the aquarium of Trocadero. Bulletin, 1883 (1883), vol. III, p. 207-208. F12-382
- Rich, Willis H.:** [Proper time to plant fry of chinook salmon.] Bulletin, 1919-20 (192-), vol. XXXVII, p. 68-71.
- Sherman, R. U.:** [Salmon fry planted in New York waters.] Bulletin, 1886 (1887), vol. VI, p. 409.
- Smiley, Charles W.:** The influence of artificial propagation upon production illustrated by the salmon work of the Sacramento River, California. Bulletin, 1884 (1884), vol. IV, p. 201-202. F13-96
- Smith, E. L.:** Hood River, Oregon, as a place for salmon breeding. Bulletin, 1886 (1887), vol. VI, p. 87-88. F18-543
- Smith, Hugh McCormick:** [Experiments with salmon ova by Cloudsley Rutter.] Report, 1898 (1899), p. CXL-CXLII.
- Some results of the artificial propagation of Maine and California salmon in New England and Canada, recorded in the years 1879 and 1880.** (Compiled by the U. S. Fish commissioner from letters from J. H. Thomson, M. A. Green, E. M. Stilwell, H. M. Prentiss, Wm. Wood, and F. Todd.) Bulletin, 1881 (1882), vol. 1, p. 270-277.
- Summary of reports for 1878, by State fish commissioners respecting the increase of food fishes by artificial propagation (salmon).** Report, 1878 (1880), p. 925-928, 935, 937, 938, 942. F16-187
- Stone, Livingston:** Explorations on the Columbia River from the head of Clarks Fork to the Pacific Ocean, made in the summer of 1883, with reference to the selection of a suitable place for establishing a salmon-breeding station. Report, 1883 (1885), p. 237-258. Doc. 97 issued Aug. 16, 1886. F11-241
- The artificial propagation of salmon on the Pacific coast of the United States, with notes on the natural history of the Quinnat salmon. Bulletin, 1896 (1897), vol. XVI, p. 205-238, pl. 73-87. Doc. 320 issued Nov. 7, 1896. F12-113
- The salmons of the Pacific coast. Report, 1897 (1898), p. 7-26; also in *Manual of fish-culture*, rev. ed., 1900, p. 1-15.
- U. S. Bureau of Fisheries:** Additional reports relative to the hatching and planting of the Penobscot salmon. By Wm. W. Fletcher, J. H. Slack, Thaddeus Norris, E. Sterling, and H. F. Dousman. Report, 1872 and 1873 (1874), p. 380-384. F15-107
- Hatching and distribution of California salmon. A. Report on California salmon spawn hatched and distributed, by J. H. Slack. B. Hatching and distribution of California salmon in tributaries of Great Salt Lake, by A. P. Rockwood. Report, 1873-74 and 1874-75 (1876), p. 431-435. F16-22
- [A. The shipment of salmon ova made to New Zealand.] Report, 1875-76 (1878), p. 959-1003.
- U. S. Commissioner of Fisheries:** [Propagation of the Atlantic salmon.] Report, 1873-1875 (1876), p. XXX-XXXII; 1875-76 (1878), p. 25-26; 1877 (1879), p. 36-39; 1878 (1880), p. XXVIII-XXIX; 1879 (1882), p. XXXI-XXXIII; 1880 (1883), p. XXXI; 1881 (1884), p. XLVI-XLVII; 1882 (1884), p. LXVIII-XIX; 1883 (1885), p. LXXX-LXXXI; 1884 (1886), p. LV-LVI; 1885 (1887), p. LXXXV-LXXXVII; 1886 (1889), p. XXXIV-XXXV; 1887 (1891), p. XXXIX.
- [Propagation of the California salmon.] Report, 1873-1875 (1876), p. XXII-XXX; 1875-76 (1878), p. 21-44; 1877 (1879), p. 31-36; 1878 (1880) p. XXV-XXVIII; 1879 (1882), p. XXVII-XXXI; 1880 (1883), p. XXIX-XXX; 1881 (1884), p. XLV-XLVI; 1882 (1884), p. LXX-LXXI; 1883 (1885), p. LXXXIX and LXXXI-LXXXII; 1884 (1886), p. LIII-LV; 1885 (1887), p. LXXXIV-LXXXV; 1887 (1891), p. XXXVIII-XXXIX.
- Valéry-Mayet, Michel:** Hatching salmon eggs at Montpellier, France, and trouble with fungus. Bulletin, 1885 (1885), vol. V, p. 272. F18-434
- Walker, C. H.:** Location of a salmon hatchery in Oregon. Bulletin, 1885 (1885), vol. V, p. 309-310. F18-455
- Ward, F. M.:** Young salmon in northern New Jersey. Bulletin, 1886 (1887), vol. VI, p. 345. F18-608
- Wilmut, Samuel:** Remarks on the scarcity of male and grilse salmon in the rivers of Ontario, Canada. Bulletin, 1881 (1882), vol. I, p. 379-381. F20-148

SAIBLING.

- Gilbert, W. L.:** Growth of the saibling (*Salmo salvelinus*) in the Old Colony trout ponds at Plymouth, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 427. F18-57

- U. S. Commissioner of Fisheries:** [Saibling eggs from Germany sent to Plymouth, N. H.] Report, 1881 (1884), p. XLV.
 ——— [Success with saibling eggs.] Report, 1883 (1885), p. LXXVII.
 ——— [Successful cultivation.] Report, 1884 (1886), p. LII.

SEA BASS.

- Earll, R. E.:** Hatching blackfish (*Centropristis atrarius*) and Spanish mackerel. Bulletin, 1884 (1884), vol. IV, p. 415-416. F18-353
U. S. Bureau of Fisheries: [The sea bass.] Report, 1897 (1898), p. 223-224; also in Manual of fish-culture, rev. ed., 1900, p. 225-226.

SHAD.

- Babcock, William C.:** Report of shad operations conducted at Fort Washington, Maryland, in 1883-84. Report, 1883 (1885), p. 1035-1041 incl. tables; 1884 (1886), p. 189-192 incl. tables, pl. F17-35
Baird, Spencer F.: [First efficient steps in artificial propagation.] Report, 1872-73 (1874), p. LII-LIII.
 ——— [A fish worthy of cultivation.] Report, 1872-73 (1874), p. XLVIII-LIX.
 ——— [Propagation by the U. S. Commission of fisheries.] Report, 1873-1875 (1876), p. XVIII-XXII; 1875-76 (1878), p. 20-21; 1877 (1879), p. *29-31; 1878 (1880), p. XXXV-XXXIX; 1879 (1882), p. XXXIII-XXXV; 1880 (1883), p. XXXI-XXXIV; 1881 (1884), p. XLVIII-L; 1882 (1884), p. LXXIII-LXXVII; 1883 (1885), p. LXXXIII-LXXXIV; 1884 (1886), p. LVIII-LXI; 1885 (1887), p. LXXXIX-XCV; 1886 (1889), p. XLII.
 ——— Inducements offered fishermen to furnish shad eggs for the U. S. Commission of fish and fisheries. Bulletin, 1882 (1883), vol. II, p. 389-391, illus. F12-377
Cary, H. H.: [Increase of shad due to propagation.] Quoted by Baird. Report, 1884 (1886), p. LXXII.
 ——— [Shad in Georgia waters.] Bulletin, 1885 (1885), vol. V, p. 100-101.
Clark, Frank Nelson: Report of experiments for determining the smallest amount of water in which young shad and eggs can be kept. Report, 1881 (1884), p. 783-786. F16-340
 ——— Notes on experiments in penning shad and taking eggs at Battery station, Havre de Grace, Md., in 1883. Report, 1883 (1885), p. 1045-1050. F17-37
Daniell, William C.: Letters referring to experiments of W. C. Daniell, M. D., in introducing shad into the Alabama River. Report, 1871 and 1872 (1873), p. 386-390. F15-108
Day, Francis: On the rearing, growth, and breeding of salmon in fresh water in Great Britain. Bulletin, 1885 (1885), vol. V, p. 307. F18-452
 ——— Experiments with salmon in Scotland. Bulletin, 1886 (1887), vol. VI, p. 56. F18-532
Eckardt, R.: The experiments in propagating maifische (*Alosa vulgaris*) in 1876 (1877). Report, 1877 (1879), p. 853-866. F16-122
Fenton, Henry J.: [Shad hatching in Connecticut.] Bulletin, 1884 (1884), vol. IV, p. 310-311.
 ——— [Shad hatching in Connecticut in 1884.] Bulletin, 1884 (1884), vol. IV, p. 319-320.
 ——— [Shad hatching and distribution in Connecticut in 1886.] Bulletin, 1886 (1887), vol. VI, p. 405.
Ferguson, T. B.: Extracts from a report of investigations of the shad fisheries and rivers south of Charleston, S. C., with a view to establishing stations for artificial propagation. Bulletin, 1884 (1884), vol. IV, p. 244-248. F18-299
Griffith, William: Result of planting shad in the Ohio River. Bulletin, 1882 (1883), vol. II, p. 12. F18-62
Hamlen, William: Reconnaissance of Florida rivers with a view to shad hatching. Bulletin, 1884 (1884), vol. IV, p. 206-208. F13-98
 ——— Report of shad-hatching operations at Battery station, Havre de Grace, Md. Bulletin, 1885 (1885), vol. V, p. 401-410. F18-484
 ——— Report on the shad work of the steamer *Halcyon* during the season of 1887. Bulletin, 1887 (1889), vol. VII, p. 111. F18-596
Harding, Charles William: Inquiries concerning the propagation of American smelt and shad, and notes on the fisheries of the Wash in England. Bulletin, 1881 (1882), vol. I, p. 428-429. F18-58
Huske, C. J.: Shad work in South Carolina. Bulletin, 1883 (1883), vol. III, p. 446. F18-178
 ——— Report on the shad work in South Carolina in 1883. Transportation of shad eggs on trays. Bulletin, 1884 (1884), vol. IV, p. 161-164. F13-91

- McDonald, Marshall:** [Propagation of shad.] Report, 1882 (1884), p. 881-883.
 — Distribution of shad through Central station by the United States Fish commission in 1882. Report, 1882 (1884), p. 899-902, tables. F16-314
 — Shad eggs sent to Cold Springs Harbor, New York, to be hatched. Bulletin, 1884 (1884), vol. IV, p. 198. F18-280
 — Report of the shad propagation on the Potomac River during the season of 1885 and 1886. Bulletin, 1885 (1885), vol. V, p. 369-385; 1886 (1887), vol. VI, p. 436-438.
 — Report of shad propagation on the Potomac River during the season of 1885 and 1886. Report, 1885 (1887), p. 369-385; 1886 (1889), p. 815-817.
 — Report of shad distribution for the season of 1886. Report, 1886 (1889), p. 801-806.
 — Report of shad distribution for 1886 and 1887. Bulletin, 1886 (1887), p. 302, 427-432; 1887 (1889), p. 105-109 incl. tables. F18-658
 — [Shad hatching in 1887.] Report, 1887 (1891), p. XLII-XLIV.
- Milner, James W.:** Report on the propagation of the shad (*Alosa sapidissima*) and its introduction into new waters by the U. S. Fish commission in 1873. Report, 1872 and 1873 (1874), p. 419-451. F15-111
 — The propagation and distribution of shad. Report, 1875-76 (1878), p. 901-909; 1877 (1879), p. 847-852; 1878 (1880), p. 611-628. F16-74, F16-121, F16-171
- Page, William F.:** Effects of sunlight upon shad eggs. Bulletin, 1885 (1885), vol. V, p. 308. F18-453
- Rice, Henry J.:** Experiments upon retarding the development of eggs of the shad, made in 1879, at the United States shad-hatching station at Havre de Grace, Md. Report, 1881 (1884), p. 787-794, illus. F16-341
- Ryder, John Adam:** On the retardation of the development of the ova of the shad (*Alosa sapidissima*), with observations on the egg fungus and bacteria. Bulletin, 1881 (1882), vol. I, p. 177-190. F12-319
 — Additional observations on the retardation of the development of the ova of the shad. Bulletin, 1881 (1882), vol. I, p. 422-424. F12-240
 — On the retardation of the development of the ova in the shad (*Alosa sapidissima*), with observations on the egg fungus and bacteria. Report, 1881 (1884), p. 795-811. F16-342
- Smiley, Charles Wesley:** Statistics of the shad-hatching operations conducted by the United States Fish commission in 1881 and 1882. Report, 1881 (1884), p. 1107-1119, incl. tables; 1882 (1884), p. 903-913, tables. F16-346, F16-329
 — Result of planting shad in the Muskingum River. Bulletin, 1882 (1883), vol. II, p. 32. F18-73
 — Planting and catching of shad in Coosa River, Alabama. Bulletin, 1883 (1883), vol. III, p. 200. F18-125
- Smith, Everett:** Results of planting shad in the Kennebec River. Bulletin, 1887 (1889), vol. VII, p. 16. F18-637
- Smith, Hugh McCormick:** [History of the introduction of shad in the Pacific States.] Bulletin, 1895 (1896), vol. XV, p. 404-427, pl. 76.
- Stevenson, Charles H.:** [Effects of dams on artificial reproduction of shad.] Bulletin, 1897 (1898), vol. XVII, p. 265-271.
- Stone, Livingston:** [Overland journey with live shad from New York to California.] Report, 1873-1875 (1876), p. 377-429.
- U. S. Bureau of Fisheries:** The propagation and distribution of the shad. A. Operations in the distribution of shad in 1874, by J. W. Milner. B. Report on shad-hatching in New Jersey, by G. A. Anderson. C. Voyage to Bremerhaven, Germany, with shad, by F. Mather. D. Living shad on their way to the Weser, tr. by H. Jacobson. E. Shad hatching and distribution of operations of 1875. Report, 1873-74 and 1874-75 (1876), p. 323-349. F16-18
 — On the transportation of shad for long distances. A. Experiments with a view to transporting shad in sea water, by James W. Milner. B. Experiments with a view to transporting shad a few months old, by Charles D. Griswold. C. Apparatus for hatching shad ova while en route to new waters, by Fred Mather. Report, 1873-74 and 1874-75 (1876), p. 363-376, illus. F16-20
 — Report on shad-hatching operations. Report, 1872 and 1873 (1874), p. 403-418. F15-110
 — Report on the propagation and distribution of shad (*Alosa sapidissima*) in the spring of 1880. Report, 1880 (1883), p. 653-672, tables. F16-302
 — Report of operations at Havre de Grace, Maryland. Report, 1883-1886 (1884-1887); 1883, p. 1043-1044; 1884, p. 199-208; 1886, p. 761-763, 807-814. F17-36
 — Report of shad-hatching operations at Battery station, Havre de Grace, Md., season of 1885 and 1887. Bulletin, 1885 (1885), vol. V, p. 401-410; 1886 (1887), vol. VI, p. 361-368; 1887 (1891), vol. VII, p. 95-100, incl. tables. F18-613

- U. S. Bureau of Fisheries:** Report of the operations of the U. S. Fish commission steamer *Fish Hawk* in shad-hatching during the seasons of 1885, 1886, 1887. Bulletin, 1885 (1885), vol. V, p. 395-400; 1886 (1886), vol. VI, p. 289-293; 1887 (1889), vol. VII, p. 83-89. F18-594
- Report on the shad work of the steamer *Lookout*. Report, 1884 (1886), p. 123-127; 1885 (1887), p. 97-101; 1886 (1889), p. 825-827. F17-123
- Report of shad-hatching operations by the steamer *Lookout* during the seasons of 1885, 1886, 1887. Bulletin, 1885 (1885), vol. V, p. 386-394; 1886 (1886), vol. VI, p. 295-297; 1887 (1887), vol. VII, p. 95-100. F18-613
- U. S. Commissioner of Fisheries:** [Investigations of spawning grounds of shad.] Report, 1897 (1898), p. XXXVIII-XXXIX.
- Wallem, Frederik Meltzer:** [Hatching young shad for the sake of the fisheries.] Report, 1878 (1880), p. 104-106.
- Wood, William Maxwell:** Report of the operations of the U. S. steamer *Lookout* from March 31, 1881, to November 20, 1882. Report, 1882 (1884), p. 35-37. F16-322
- Report of a trip by the steamer *Fish Hawk* to the St. Mary's and St. John's rivers to hatch shad. Bulletin, 1884 (1884), vol. IV, p. 241-242. F18-297
- Report of operations at the navy-yard shad-hatching station in Washington, D. C., during the season of 1882. Report, 1882 (1884), p. 891-897, pl. F16-321
- Worth, Stephen G.:** Shad hatching and carp culture. Bulletin, 1882 (1883), vol. II, p. 26-27. F18-71
- A poor season for shad hatching in North Carolina. Bulletin, 1882 (1883), vol. II, p. 54. F18-74
- Observations on the spawning habits of the shad. Bulletin, 1891 (1893), vol. XI, p. 201-206. *Doc. 209 issued Mar. 11, 1893.* F12-127
- The shad. Report, 1897 (1898), p. 133-158; also in *Manual of fish-culture*, rev. ed., 1900, p. 121-145.
- Possible expansion of shad-hatchery work. Bulletin, 1908 (1910), vol. XXVIII, p. 789-793. *Doc. 678 issued April, 1910.* 10-35420

SHEEPSHEAD.

- Rathbun, Richard:** [Successful hatching of sheepshead eggs on *Fish Hawk*.] Report, 1888-89 (1892), p. LIX.
- U. S. Bureau of Fisheries:** [The sheepshead.] Report, 1897 (1898), p. 224-225; also in *Manual of fish-culture*, rev. ed., 1900, p. 226-227.

SMELTS.

- Harding, Charles William:** Inquiries concerning the propagation of American smelt and shad, and notes on the fisheries of the Wash in England. Bulletin, 1881 (1882), vol. I, p. 428-429. F18-58
- Mather, Fred:** [Smelt successfully hatched at Cold Spring Harbor.] Report, 1885 (1887), p. 113.
- U. S. Bureau of Fisheries:** [The smelt.] Report, 1897 (1898), p. 188; also in *Manual of fish-culture*, rev. ed., 1900, p. 190.
- U. S. Commissioner of Fisheries:** [Success in hatching smelts at Cold Springs Harbor.] Report, 1885 (1887), p. XCVI. Report, 1886 (1889), p. XXX.

STURGEON.

- Dean, Bashford:** Recent experiments in sturgeon hatching on the Delaware River. Bulletin, 1893 (1894), vol. XIII, p. 335-339, illus. *Doc. 261 issued June 26, 1894.* F12-183
- Leach, Glen C., and Nicolas A. Borodin:** Artificial propagation of sturgeon. Review of sturgeon culture in the United States, by Glen C. Leach, and Artificial propagation of sturgeon in Russia, by Nicolas A. Borodin. Appendix III, Report, 1919 (1921), 7 p. *Doc. 880 issued Feb. 19, 1920.* F20-I
- Rathbun, R.:** [Sturgeon eggs successfully hatched.] Report, 1893 (1895), p. 48-49.
- Ravenel, W. de C.:** [Sturgeon culture at Cape Vincent.] Report, 1901 (1902), p. 38-42.
- Ryder, J. A.:** [Sturgeon culture.] Bulletin, 1888 (1890), vol. VIII, p. 268-276.
- U. S. Bureau of Fisheries:** The artificial propagation of sturgeon in Schleswig-Holstein, Germany. (Reports translated from the German.) Bulletin, 1889 (1891), vol. IX, p. 81-90. *Doc. 151 issued May 29, 1891.* F12-139
- [The sturgeons.] Report, 1897 (1898), p. 189-191; also in *Manual of fish-culture*, rev. ed., 1900, p. 191-193.
- U. S. Commissioner of Fisheries:** [Experiments with sturgeon spawn.] Report, 1887 (1891), p. XLV.
- [Sturgeon work in Minnesota.] Report, 1912 (1914), p. 51.

SUCKERS.

- Fraley, W. R.:** [Carp mullets cultivated in North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 403-404.
- Gardner, A. P.:** Experiments in the pond culture of trout, suckers, and catfish. Bulletin, 1883 (1883), vol. III, p. 417-420 F18-157

SQUETEAGUE.

- Hughes, Smith E.:** Live ponds for fish in New Jersey (weakfish). Bulletin, 1881 (1882), vol. I, p. 349-351. F20-126
- Rathbun, Richard:** [Eggs of spotted weakfish successfully hatched on *Fish Hawk*.] Report, 1888-89 (1892), p. LIX.
- [First attempt of artificial propagation.] Report, 1889-1891 (1893), p. 160.
- U. S. Bureau of Fisheries:** [The squeteague.] Report, 1897 (1898), p. 224; also in Manual of fish-culture, rev. ed., 1900, p. 226.

TAUTOG.

- U. S. Bureau of Fisheries:** [The tautog.] Report, 1897 (1898), p. 219-220; also in Manual of fish-culture, rev. ed., 1900, p. 221-222.

TROUT.

- Barbour, C. H.:** [Success with trout and salmon.] Bulletin, 1886 (1887), vol. VI, p. 144.
- Clark, Frank N.:** [Trout work of the U. S. hatchery, Northville, Mich.] Report, 1881 (1884), p. 1049-1056; 1882 (1884), p. 818-822; 1883 (1885), p. 979-981; 1884 (1886), p. 156-161; 1885 (1887), p. 124-126; 1886 (1889), p. 732-736.
- Spawning of California mountain trout, reared in confinement, from eggs brought from McCloud River. Bulletin, 1883 (1883), vol. III, p. 256. F18-130
- The brook trout. Report, 1897 (1898), p. 91-101; also in Manual of fish-culture, rev. ed., 1900, p. 80-90.
- The lake trout. Report, 1897 (1898), p. 103-117; also in Manual of fish-culture, rev. ed., 1900, p. 91-105.
- Clarke, H. R.:** [A rainbow trout reared from eggs brought from California.] Bulletin, 1884 (1884), vol. IV, p. 360.
- Propagation of trout by the Southside Club. Bulletin, 1885 (1885), vol. V, p. 436. F18-500
- Crawford, S. M.:** [Trout breeding.] Bulletin, 1884 (1884), vol. IV, p. 364-365.
- Delano, J. S., and Frantz, Emanuel H.:** [Growth of California trout.] Bulletin, 1885 (1885), vol. V, p. 100.
- Delawder, G. W.:** [Cultivation of California trout and landlocked salmon.] Bulletin, 1885 (1885), vol. V, p. 108.
- Dowell, Benjamin Franklin:** Efforts in trout culture. Bulletin, 1884 (1884), vol. IV, p. 64. F18-224
- Cultivating trout in Oregon. Bulletin, 1884 (1884), vol. IV, p. 217. F18-286
- Duncan, J. Barker:** Salmon and trout hatcheries in Scotland. Bulletin, 1885 (1885), vol. V, p. 451-456. F18-508
- Evermann, Barton Warren:** The golden trout of the southern high Sierras. (Contains also: Temperature conditions in the Kern River region, by O. P. Jenkins: p. 50-51.) Bulletin, 1905 (1906), vol. XXV, 51 p., XVII pl. (partly col.), fold. map. Doc. 595 issued May 19, 1906. F11-66
- Follett, Richard E.:** [Trout culture in Connecticut.] Bulletin, 1885 (1885), vol. V, p. 351.
- Gardner, A. P.:** Experiments in the pond culture of trout, suckers, and catfish. Bulletin, 1883 (1883), vol. III, p. 417-420. F18-157
- Gilbert, W. L.:** The past, present, and future of trout culture. Bulletin, 1893 (1894), vol. XIII, p. 47-48. Doc. 242 issued June 9, 1894. F12-183
- Green, Loren W.:** Condition of the United States trout ponds. Bulletin, 1885 (1885), vol. V, p. 309. F18-454
- Green, Seth:** Rearing of California mountain trout (*Salmo irideus*). Bulletin, 1881 (1882), vol. I, p. 23. F18-11
- Growth of rainbow trout.** Bulletin, 1884 (1884), vol. IV, p. 360.
- Haack, Herman:** Treatment of young salmonoids and coregoni from the time they leave the egg till they are fully developed and can be placed in open water. Report, 1879 (1882), p. 687-693. F17-19
- Holberton, Wakeman:** The successful stocking of (Ohio) streams with trout. Bulletin, 1883 (1883), vol. III, p. 192. F18-123

- Huske, C. J.:** Report on California trout distribution in South Carolina. Bulletin, 1884 (1884), vol. IV, p. 164-165. F18-258
- Jaffe, S.:** [Notes on the rearing of yearling trout at Sandfort.] Bulletin, 1895 (1896), vol. XV, p. 317-319.
- Kennedy, B. E. B.:** [California trout in Nebraska.] Bulletin, 1885 (1885), vol. V, p. 104.
- Koss, R. A.:** Trout and trout culture. Bulletin, 1883 (1883), vol. III, p. 473-476. F12-389
- Kunnel:** On the conditions under which trout exist on the German waters. Bulletin, 1884 (1884), vol. IV, p. 393-395. F18-348
- Land, Gordon:** [Hatching and feeding of Rocky Mountain trout.] Bulletin, 1886 (1887), vol. VI, p. 314-315.
- Leach, Glen C.:** Culture of rainbow trout and brook trout in ponds. 19 p., illus. *Economic Circular 41 issued Feb. 20, 1919.* F19-3
- McDonald, Marshall:** California trout planted in Roanoke River in July, 1883, retaken in June, 1884. Bulletin, 1884 (1884), vol. IV, p. 286. F18-311
- California trout for the Ozark mountain region. Bulletin, 1886 (1887), vol. VI, p. 447-448. F18-630
- [Breed California trout at Wytheville.] Report, 1885 (1887), p. LXXXV.
- Report of operations at the trout-breeding station at Wytheville, Va., from its occupation in January, 1882, to the close of 1884. Report, 1885 (1887), p. 103-108. F20-163
- [Distribution of trout eggs by the U. S. Fish commission from January 1, 1886, to June 30, 1889.] Report, 1886 (1889), p. 833-842.
- Mather, Fred:** Eggs received from foreign countries at Cold Springs Harbor, N. Y., and retained or forwarded during the seasons of 1883-84 and 1884-85. Report, 1884 (1886), p. 143-146. F20-164
- [Propagation of trout at Cold Springs Harbor, Long Island.] Report, 1884 (1886), p. 130-134, pl.; 1885 (1887), p. 109-112; 1886 (1889), p. 721.
- Maynard, H. J.:** Rainbow trout in southwestern Missouri. Bulletin, 1887 (1889), vol. VII, p. 55-56. F18-647
- Metcalf, Martin:** Success in propagating California mountain trout from eggs brought to Michigan by the U. S. Fish commission. Bulletin, 1883 (1883), vol. III, p. 471-472. F18-197
- Neelley, J. N.:** [Propagating trout in Kentucky.] Bulletin, 1885 (1885), vol. V, p. 108.
- New York Sun:** [Increase of California trout.] Bulletin, 1886 (1887), vol. VI, p. 133.
- Page, W. F.:** [Trout-rearing at Neosho, Mo.] Bulletin, 1894 (1895), vol. XIV, p. 71-72.
- Feeding and rearing fishes, particularly trout, under domestication. (Bibliography: p. 312-314.) Bulletin, 1894 (1895), vol. XIV, p. 289-314. *Doc. 294 issued May 22, 1895.* 12-17377
- Paige, Charles L.:** A method of cultivating rainbow trout and other salmonoids. Bulletin, 1908 (1910), vol. XXVIII, p. 781-787, diags. *Doc. 677 issued April, 1910.* 10-35421
- Peebles, M. T.:** [Note on trout culture.] Bulletin 1885 (1885), vol. V, p. 467.
- Pierce, John:** [Lake trout in Colorado.] Bulletin, 1886 (1887), vol. VI, p. 134.
- Pierre, H. J.:** [Hatching rainbow trout.] Bulletin, 1885 (1885), vol. V, p. 347.
- Redmond, Roland:** On rainbow trout reared from eggs brought from California. Bulletin, 1883 (1883), vol. III, p. 230. F18-127
- Seagle, George A.:** [California trout propagation at Wytheville, Va.] Bulletin, 1885 (1885), vol. V, p. 350.
- [California trout in Holston River and in tributaries of New River.] Bulletin, 1886 (1887), vol. VI, p. 140.
- The artificial propagation of the rainbow trout. Bulletin, 1896 (1897), vol. XVI, p. 239-256, illus., pl. 88-94. *Doc. 319 issued Nov. 17, 1896.* F12-111
- The rainbow trout. Report, 1897 (1898), p. 71-89; also in *Manual of fish-culture*, rev. ed., 1900, p. 61-79.
- Smiley, Charles Wesley:** Loch Leven trout introduced in the United States. Bulletin, 1887 (1889), vol. VII, p. 28-32. F18-644
- Smith, Silas B.:** Efforts to raise trout. Bulletin, 1885 (1885), vol. V, p. 435-436. F18-499
- Starkey, George A.:** [Trout for sale.] Bulletin, 1885 (1885), vol. V, p. 108.
- Stone, Livingston:** Report of operations at the United States trout ponds, McCloud River, California. Report, 1879 (1882), p. 715-720; 1880 (1883), p. 615-621; 1881 (1884), p. 1079-1083; 1882 (1884), p. 851-855; 1884 (1886), p. 171-176; 1885 (1887), p. 131-140; 1886 (1889) p. 737-745.
- Segregation of the sexes of trout. Bulletin, 1885 (1885), vol. V, p. 448. F18-505
- [Trout culture in England.] Bulletin, 1885 (1885), vol. V, p. 338.
- Tuttle, J. S.:** [Rainbow trout, eels, and hatching of carp.] Bulletin, 1886 (1887), vol. VI, p. 133-134.

- U. S. Bureau of Fisheries:** [Minor trouts.] Report, 1897 (1898), p. 179-180; also in Manual of fish-culture, rev. ed., 1900, p. 181-182.
- Wilson, Charles A.:** Raising brook trout in mineral water. Bulletin, 1882 (1883), vol. II, p. 392. F18-112

WHITEFISH.

- Bower, Seymour:** Instructions for taking whitefish eggs. Bulletin, 1884 (1884), vol. IV, p. 113-114. F18-239
- Buck, H. H.:** Report upon hatching one million whitefish eggs from the Great Lakes, at Orland, Me., and upon planting the young in Eagle Lake, Mount Desert. Bulletin, 1883 (1883), vol. III, p. 454-455. F18-182
- Clark, Frank Nelson:** Report of operations connected with the propagation of whitefish (*Coregonus albus*) at the Northville station, Northville, Michigan, for the season of 1880-81. Report, 1880 (1883), p. 553-596. F16-276
- [Propagating whitefish at the United States hatchery, Northville, Mich.] Report, 1881 (1884), p. 1038-1040; 1882 (1884), p. 813-838; 1883 (1885), p. 975-979; 1884 (1886), p. 151-156; 1885 (1887), p. 123-124.
- On the rearing of the whitefish in spring-water, and its relation to their subsequent distribution. Bulletin, 1881 (1882), vol. I, p. 301-306.
- On the propriety of depositing [whitefish] minnows off the harbor of Cleveland, Ohio. Bulletin, 1883 (1883), vol. III, p. 349-353. F12-398
- [Success of whitefish propagation.] Bulletin, 1885 (1885), vol. V, p. 99-100.
- Results of planting young whitefish in Lake Erie. What the fishermen think of whitefish propagation. Bulletin, 1885 (1885), vol. V, p. 113-121. F18-382
- Natural as compared with artificial hatching of whitefish. Bulletin, 1885 (1885), vol. V, p. 321-323. F18-465
- Whitefish distributed from Northville and Alpena stations. Bulletin, 1887 (1889), vol. VII, p. 65-66. F18-652
- History and methods of whitefish culture. Bulletin, 1893 (1894), vol. XIII, p. 213-220. Doc. 257 issued June 26, 1894. F12-183
- A plan for promoting the whitefish production of the Great Lakes. Bulletin, 1908 (1910), vol. XXVIII, p. 635-642. Doc. 673 issued Apr. 14, 1910. 10-35439
- Curtis, J. E.:** [Propagation of whitefish.] Bulletin, 1884 (1884), vol. IV, p. 335-336. F18-326
- Downing, Seth W.:** A plan for promoting the whitefish production of the Great Lakes. Bulletin, 1908 (1910), vol. XXVIII, p. 627-633. Doc. 672 issued Apr. 14, 1910. 10-35439
- Greenfield, Alfred:** Report upon the receipt and hatching of American whitefish ova and planting of the fry in Australia. Bulletin, 1884 (1884), vol. IV, p. 190-191. F18-279
- Haack, Hermann:** Treatment of young salmonoids and coregoni from the time they leave the egg till they are fully developed and can be placed in open waters. Report, 1879 (1882), p. 687-693. F17-19
- McDonald, Marshall:** [Distribution of whitefish by the U. S. Fish commission from January 1, 1886, to June 30, 1887.] Report, 1886 (1889), p. 835.
- Mason, Frank Holcomb:** Proposed exportation of whitefish eggs to Switzerland. Bulletin, 1883 (1883), vol. III, p. 272. F18-131
- Mather, Fred:** [Propagation of whitefish at Cold Springs Harbor, Long Island.] Report, 1884 (1886), p. 134; 1885 (1887), p. 109, 1886 (1889), p. 721.
- Metcalf, Martin:** Planting whitefish and other Salmonidæ in inland lakes. Bulletin, 1886 (1887), vol. VI, p. 422-423. F18-622
- Milner, James W.:** [History of whitefish culture in the Great Lakes.] Report, 1872 and 1873 (1874), p. 25-34.
- Page, W. F.:** Shrinkage of whitefish eggs during transportation on trays. Bulletin, 1886 (1887), vol. VI, p. 360. F18-612
- [Record of whitefish eggs received and hatched at Druid Hill hatching house, Baltimore, Md.] Bulletin, 1884 (1884), vol. IV, p. 316.
- Reighard, Paul Roby:** A plan for promoting the whitefish production of the Great Lakes. [With discussion by Edward E. Prince, C. H. Wilson, Kelly Evans, Barton W. Evermann, Tarlton H. Bean, Charles E. Fryer, John W. Titcomb, W. E. Meehan, Seymour Bower, W. T. Thompson, Frank N. Clark, Samuel F. Fullerton, and Dwight Lydall.] Bulletin, 1908 (1910), vol. XXVIII, p. 643-684, diags. Doc. 674 issued Apr. 14, 1910. 10-35439
- Smith, Hugh McCormick:** [Introduction of whitefish in California.] Bulletin, 1895 (1896), vol. XV, p. 428-430, pl. 77.
- Sterling, E.:** On the impropriety of depositing whitefish minnows off the harbor of Cleveland, Ohio. Fishing for saugers. Bulletin, 1883 (1883), vol. III, p. 302-303. F18-141

- Stranahan, J. J.:** The methods, limitations, and results of whitefish culture in Lake Erie. Bulletin, 1897 (1898), vol. XVII, p. 315-318. *Doc. 388 issued Aug. 8, 1898.* F-12110
- The whitefish. Report, 1897 (1898), p. 119-131; also in *Manual of fish-culture*, rev. ed., 1900, p. 109-120.
- Tomlin, W. David:** [Results of planting whitefish fry in Lake Superior.] Bulletin, 1886 (1887), vol. VI, p. 411.
- U. S. Commissioner of Fisheries:** [Propagation of whitefish.] Report, 1872-73 (1874), p. XXV-XLVI; 1873-1875 (1876), p. XXXII; 1875-76 (1878), p. 26-27; 1877 (1879), p. 39; 1878 (1880), p. XXXV; 1880 (1883), p. XXVII-XXIX; 1881 (1884), p. XLIV; 1882 (1884), p. LXIV-LXVIII; 1883 (1885), p. LXXVI-LXXVII; 1884 (1886), p. XLIX-LI; 1885 (1887), p. LXXVIII-LXXX; 1886 (1889), p. XXX.
- Worth, S. G.:** [Propagation of the cisco at Put in Bay.] Report, 1893 (1895), p. 101.

TURBOT.

- Anthony, Raoul Louis Ferdinand:** The cultivation of the turbot. Bulletin, 1908 (1910), vol. XXVIII, p. 859-870, pl. CII-CIII, illus. *Doc. 686 issued April, 1910.* 10-35563

METHODS.

- Behr, Friedrich von:** Treatment of fish eggs at sea. Bulletin, 1881 (1882), vol. I, p. 346-347. F20-112
- Borne, Max von dem:** Dry transmission of fish eggs. Bulletin, 1881 (1882), vol. I, p. 345.
- Hessel, Rudolph:** Method of treating adhesive eggs of certain fishes, especially of the Cyprinidæ in artificial propagation. Report, 1872-73 (1874), p. 566-570, pl. XVII-XVIII. F15-117
- Mason, Frank H.:** [Description of method employed by Lugrin at Gremaz, France, for producing food for young fish.] Bulletin, 1887 (1889), vol. VII, p. 203-205.
- Nussbaum:** A simple test to learn if fish ova are impregnated. (Tr. by John A. Ryder.) Bulletin, 1882 (1883), vol. II, p. 347-348. F12-371
- Page, William F.:** The most recent methods of hatching fish eggs. Bulletin, 1888 (1890), vol. VIII, p. 207-218, illus., pl. XXX-XXXVI. *Doc. 139 issued Mar. 13, 1890.* F11-321
- Reisenbichler, G. F.:** The thick or thin fertilization of eggs. Report, 1879 (1882), p. 633-635. F17-11
- Stenzel, Alexander:** On the so-called "dry" method of impregnation of spawn. Report, 1872 and 1873 (1874), p. 571-575. F15-118
- Wallich, Claudius:** A method of recording the egg development for use of fish culturists. Report, 1900 (1901), p. 185-194, pls. F11-71

AERATION.

- Atkins, C. G.:** [Aeration in hatching salmon.] Report, 1878 (1880), p. 950-951, illus.
- [Aeration in salmon culture.] Report, 1897 (1898), p. 38-39; also in *Manual of fish-culture*, rev. ed., 1900, p. 26-27.
- Bean, Tarleton Hoffmann:** [Oxygenizing water.] Report, 1894 (1896), p. 32-33.
- Bettoni, Eugenio, and Decio Vinciguerra:** [Necessity of water aeration.] Report, 1886 (1889), p. 545-547.
- Harron, L. G.:** [Linden plugs for aeration.] Report, 1893 (1895), p. 95.
- McDonald, Marshall:** Experiments in the transportation of the German carp in a limited supply of water. Bulletin, 1881 (1882), vol. I, p. 215-218. F12-321
- Ryder, John Adam:** [Experiments by Marshall McDonald on methods of aeration.] Report, 1888-89 (1892), p. 521.
- Seal, William P.:** The keeping of Salmonidæ for purposes of exhibition. Bulletin, 1887 (1889), vol. VII, p. 283-285, illus. F18-676
- Sharp, J.:** [Transporting bass.] Bulletin, 1897 (1898), vol. XVII, p. 363-368.
- Vincent, Eugene:** Devices for use in fish hatcheries and aquaria. Bulletin, 1908 (1910), vol. XXVIII, p. 1025-1035. *Doc. 705 issued April, 1910.* 10-35556

APPARATUS AND APPLIANCES.

- Atkins, Charles G.:** Cheap fixtures for the hatching of salmon. Report, 1878 (1880), 25 p., illus. *Doc. 21 issued May 29, 1879.* F11-209
- Bayer, Hector von:** A method of measuring fish eggs. Bulletin, 1908 (1910), vol. XXVIII, p. 1009-1014, diags. *Doc. 703 issued April, 1910.* 10-35426
- Bettoni, Eugenio:** [Hatching apparatus.] Report, 1886 (1889), p. 548-562.

- Clark, F. N.: The self-picker. *Bulletin*, 1881 (1882), vol. I, p. 62-65. F18-22
 — [Clark hatching-box.] *Report*, 1897 (1898), p. 96-97; also in *Manual of fish-culture*, rev. ed., 1900, p. 84-85.
- Dannevig, Gunder Mathisen: Apparatus and methods employed at the marine fish hatchery at Flödevig, Norway. *Bulletin*, 1908 (1910), vol. XXVIII, p. 799-809, illus., pl. CI, diags. *Doc. 680 issued April, 1910.* 10-35442
- Ewart, Cossar: [A new hatching box.] *Bulletin*, 1884 (1884), vol. IV, p. 316.
- Fuller, Alfred E.: New and improved devices for fish culturists. *Bulletin*, 1908 (1910), vol. XXVIII, p. 991-1000, pl. CIV-CVI. *Doc. 700 issued April, 1910.* 10-35566
- Giles, W. S.: [Tanks for transferring fish from the Mississippi River to Kansas.] *Bulletin*, 1884 (1884), vol. IV, p. 312.
- Huske, C. J.: [McDonald, automatic jar.] *Bulletin*, 1884 (1884), vol. IV, p. 164.
- Kincaid, Walter S.: New methods of transporting eggs and fish. *Bulletin*, 1908 (1910), vol. XXVIII, p. 1037-1039. *Doc. 706 issued April, 1910.* 10-35425
- Kite, J. Alban: Report upon apparatus needed and facilities for hatching Spanish mackerel. *Report*, 1883 (1885), p. 1095-1100, illus. F17-40
- Klotz, J. P. J.: [Hatching apparatus.] *Report*, 1880 (1883), p. 499-504, illus.
- LaValete St. George, Adolf Johann Hubert: A new fish-hatching apparatus. *Bulletin*, 1883 (1883), vol. III, p. 209-212, illus. F18-126
- A new fish-hatching apparatus. *Bulletin*, 1883 (1883), vol. III, p. 448. F18-181
- McDonald, Marshall: [Apparatus for hatching buoyant fish eggs.] *Report*, 1881 (1884), p. 1127-1129, illus.
- History of the experiments leading to the development of the automatic fish-hatching jar. *Bulletin*, 1883 (1883), vol. III, p. 183-192, illus. F12-379
- [A moving hatchery.] *Bulletin*, 1885 (1885), vol. V, p. 106.
- Milner, James W.: [Apparatus used in shad hatching in 1878.] *Report*, 1878 (1880), p. 615-617.
- Page, William F.: [Description of the McDonald universal hatching jar.] *Bulletin*, 1888 (1890), vol. VIII, p. 209-218, illus., pl. XXX-XXXVI.
- Robinson, Robert K.: A device for counting young fish. *Bulletin*, 1908 (1910), vol. XXVIII, p. 1001-1004, diags. *Doc. 701 issued April, 1910.* 10-35422
- Ryder, John Adam: [Description of McDonald apparatus, and use in prolonging period of incubation of shad ova.] *Bulletin*, 1881 (1882), vol. I, p. 182-183.
- Simms, George E.: An improvement in hatching and rearing boxes; with notes on the continuous feeding of the fry of Salmonidæ. *Bulletin*, 1908 (1910), vol. XXVIII, p. 1015-1023. *Doc. 704 issued April, 1910.* 10-35445
- Stone, Livingston: [Williamson troughs.] *Report*, 1897 (1898), p. 18-19; also in *Manual of fish-culture*, rev. ed., 1900, p. 12-13.
- U. S. Bureau of Fisheries: Descriptions of improved apparatus in fish hatching. *Report*, 1872-73 (1874), p. 578-587. F15-120
- On the transportation of shad for long distances. A. Experiments with a view to transporting shad in sea water, by James W. Milner. B. Experiments with a view to transporting shad a few months old, by Charles D. Griswold. C. Apparatus for hatching shad ova while en route to new waters. *Report*, 1873-74 and 1874-75 (1876), p. 363-376, illus. F16-20
- [Chester boxes.] *Report*, 1897 (1898), p. 204-205, pl. 57; also in *Manual of fish-culture*, rev. ed., 1900, p. 206-207, pl. 58.
- [McDonald tidal boxes.] *Report*, 1897 (1898), p. 202-204, illus., pl. 56; also in *Manual of fish-culture*, rev. ed., 1900, p. 204-206, illus., pl. 57.
- Vincent, Eugene: Devices for use in fish hatcheries and aquaria. *Bulletin*, 1908 (1910), vol. XXVIII, p. 1025-1035. *Doc. 705 issued April, 1910.* 10-35556
- Wood, William Maxwell: [Apparatus for hatching Spanish mackerel.] *Report*, 1883 (1885), p. 1091, illus.
- Worth, S. G.: [McDonald automatic hatching jar.] *Report*, 1897 (1898), p. 150-153, illus., pl. 41; also in *Manual of fish-culture*, rev. ed., 1900, p. 138-141, illus., pl. 46.

MISCELLANEOUS.

- Baird, S. F.: [History of fish-culture.] *Report*, 1872-73 (1873), p. XXXI-XXXIV.
- Behr, Friedrich von: [Address made at meeting of German fishery association at Berlin, Mar. 16, 1877, by Mr. Behr, of Schmoldow, president of the association, member of the German parliament.] *Report*, 1875 and 1876 (1878), p. 1014-1024.
- Benecke, B.: Utilizing water by fish-culture. *Report*, 1883 (1885), p. 1101-1131. *Doc. 103 issued Aug. 16, 1886.* F11-247
- Borne, Max von dem: On pond fisheries. *Report*, 1879 (1882), p. 649-650. F16-13
- Success of fish-culture. *Bulletin*, 1884 (1884), vol. IV, p. 115-123. F13-88
- Clark, Frank N.: Disadvantage of planting small fish. *Bulletin*, 1886 (1887), vol. VI, p. 421-422. F18-621

- Ducastel, M.:** The transformation of salt marshes into fish ponds. Report, 1880 (1883), p. 517-531, illus. F16-279
- Hiester, Charles E.:** Fish-culture for profit. Bulletin, 1881 (1882), vol. I, p. 382-383. F20-125
- Johnson, Robert S., and Mortimer Freeman Stapleton:** Fish ponds on farms. Appendix II, Report, 1915 (1917), 28 p., XIX pl. *Doc. 826 issued Dec. 15, 1915.* F16-79
- Fish ponds on farms. 32 p., illus. *Doc. 826, revised edition, issued 1917.* F17-259
- K., Baron von:** Fish-culture as a means of improving the race of fish. Bulletin, 1885 (1885), vol. V., p. 289-291. F18-443
- Klotz, J. P. J.:** On the artificial propagation of fish. Report, 1880 (1883) p. 491-516, illus. F16-289
- Lyman, Theodore:** Fish-culture in salt or brackish water. Report, 1872 and 1873 (1874), p. 575-578, pl. XIX. F15-119
- Marsh, Millard Caleb:** Notes on the dissolved content of water in its effect upon fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 891-906. *Doc. 688 issued April, 1910.* 10-35560
- The treatment of fish-cultural waters for the removal of algæ. Bulletin, 1908 (1910), vol. XXVIII, p. 871-890, illus. *Doc. 687 issued April, 1910.* 10-35567
- Mead, Albert Davis:** A new principle of aquiculture and transportation of live fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 759-780, pl. XC-C, diagrs. *Doc. 676 issued April, 1910.* 10-35565
- Möbius, Karl August:** Can we do anything to decrease, preserve, or increase the number of our useful marine animals? Bulletin, 1883 (1883), vol. III, p. 393-400. F12-421
- Moore, Emmeline:** The Potamogetons in relation to pond culture. Bulletin, 1913 (1915), vol. XXXIII, p. 251-291, pl. XXII-XXXIX. *Doc. 815 issued July 28, 1915.* F15-84
- Some plants of importance in pond-fish culture. (Bibliography: p. 19-20.) Appendix IV, Report, 1919 (1921), 20 p., fold. chart. *Doc. 881 issued Mar. 24, 1920.* F20-108
- Mulertt, Hugo:** [Price list of Hugo Mulertt, 507 Race Street, Cincinnati, Ohio.] Bulletin, 1885 (1885), vol. V, p. 109-110.
- Nicklas, Carl:** Pond culture. Report, 1884 (1886), p. 467-655, illus. *Doc. 111 issued Dec. 1, 1886.* F11-293
- Page, William F.:** [Size of fish eggs and number contained in a quart.] Bulletin, 1886 (1887), vol. VI, p. 405-406.
- Peat-bogs as fish-pounds.** Bulletin, 1881 (1882), vol. I, p. 58-59. F18-19
- Popular Science Monthly:** [Spawning of fish in confinement.] Bulletin, 1886 (1887), vol. VI, p. 308-309.
- Raveret-Wattel, C.:** Report on the condition of pisciculture in foreign countries from documents collected at the International fishery exposition at Berlin, 1880. Report, 1880 (1883), p. 477-489. F16-295
- Reighardt, E.:** The injurious influence on pisciculture of the retting water of flax and hemp. Report, 1880 (1883), p. 545-550. F16-296
- Smiley, C. W.:** A geographical catalogue of persons who have stated that they are interested in fish-culture. Bulletin, 1882 (1883), vol. II, p. 393-449. F18-113
- What fish-culture has first to accomplish. Bulletin, 1884 (1884), vol. IV, p. 65-68. F13-82
- Some results of the artificial propagation of Maine and California salmon in New England and Canada recorded in the years 1879 and 1880.** Compiled by the United States Fish commissioner from letters received. Bulletin, 1881 (1882), vol. I, p. 270-277. F20-142
- Stange, J.:** Fish becoming blue and rigid during transportation. Bulletin, 1886 (1887), vol. VI, p. 64. F18-535
- Titcomb, John W.:** Aquatic plants in pond culture. Report and special papers, 1907 (1909), 31 p., II pls., illus. *Doc. 643 issued Feb. 8, 1909.* 9-35225
- U. S. Bureau of Fisheries:** Observations upon fishes and fish-culture. Bulletin, 1890 (1892), vol. X, p. 49-61. *Doc. 188 issued June 20, 1892.* F12-135
- Verdict against artificial fish-culture, and an answer thereto.** Bulletin, 1883 (1883), vol. III, p. 382-387. F20-166
- Wagner, C.:** What does a fish cost? Report, 1878 (1880), p. 605-607. F16-170
- Wengen, von der:** A review of the failures and successes of artificial fish-culture. Report, 1884 (1886), p. 437-461. F17-135
- Wilson, Charles Branch:** Dragonflies and damselflies in relation to pond fish culture, with a list of those found near Fairport, Iowa. (Bibliography: p. 260-264.) Bulletin, 1917-18 (1921), vol. XXXVI, p. 179-264, illus., pl. LXVII-LXIX. *Doc. 882 issued Aug. 4, 1920.* F20-160

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DECREASE OF FISHES.

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- Baird, Spencer Fullerton:** [Decrease of food-fishes.] Report, 1871-72 (1873), p. XVIII-XXXIII; 1872-73 (1874), p. I-XVI; 1873-1875 (1876), p. VII-XV; 1875-76 (1878), p. 4-8.
- [Diminution of fishes.] Report, 1886 (1889), p. 59-72.
- Chadwick, B. P.:** The destruction of young fish by unsuitable fishing implements. Bulletin, 1881 (1882), vol. I, p. 339-340. F20-115
- Chapman, Pearson, sr.:** Habits of the shad and herring, as they appear in the Potomac River to one who has watched them for fifty years. Bulletin, 1884 (1884), vol. IV, p. 61-64. F13-81
- Church, Daniel T.:** Why the size of mesh in menhaden seines should not be restricted. Bulletin, 1883 (1883), vol. III, p. 463. F18-188
- Goode, George Brown.:** [Inquiry into causes of fishery deterioration.] Report, 1884 (1886), p. 1145-1148.

- Green, Loren W.:** [Decrease in salmon on the Pacific coast.] Bulletin, 1886 (1887), vol. VI, p. 286-288.
- Hardy, L. H.:** [Destruction of fish by Dutch nets.] Bulletin, 1884 (1884), vol. IV, p. 317.
- McDonald, Marshall:** [Causes concurring in producing a decrease in the river fisheries of the Atlantic States.] Report, 1882 (1884), p. 43-44.
- [Diminution of fish.] Report, 1887 (1891), p. V.
- Nickerson, Seth:** Destruction of small fish in weirs. Bulletin, 1884 (1884), vol. IV, p. 184. F18-274
- Rathbun, Richard:** [Decrease of food-fishes.] Report, 1888-89 (1893), p. XLIII-XLIV; 1894 (1896), p. 100-114.
- Spangler, A. M.:** The decrease of food-fishes in American waters and some of the causes. Bulletin, 1893 (1894), vol. XIII, p. 21-35. *Doc. 239 issued June 6, 1894.* F12-183
- Wallem, Fredrik Meltzer:** [Diminution of fishes.] Report, 1879 (1882), p. 102-103.

CALIFORNIA.

- Tanner, Zera Luther:** [Diminution of fish in California.] Report, 1894 (1896), p. 217-218.

FLORIDA.

- Brice, John J.:** [Diminution of fish in Florida.] Report, 1896 (1898), p. 268-269, 341-342.

MAINE.

- A petition to the Fish commission of the United States, signed by the fishermen of Block Island, June 12, 1877. Report, 1878 (1880), p. 35-39. F16-152
- Tibbetts, N. V.:** Scarcity of cod and haddock on the coast of Maine. Bulletin, 1886 (1887), vol. VI, p. 75-76. F18-537

RHODE ISLAND.

- Rhode Island, General assembly, Senate Committee on fisheries:** Pleadings before the Senate Committee on fisheries, of the Rhode Island legislature, at its January session of 1872. Argument of J. Talbot Pitman in favor of a law prohibiting the use of traps and pounds in Rhode Island. Abstract of an address by Captain Nathaniel E. Atwood, in opposition to legislation. Before the Senate committee of Rhode Island legislature, January session, 1872. Report, 1871-72 (1873), p. 196-227. F16-61

UTAH.

- Siler, Andrew L.:** Depletion of fish in Panguitch and Bear Lakes, Utah. Bulletin, 1884 (1884), vol. IV, p. 51. F18-214

WASHINGTON.

- Rathbun, Richard:** [Periodicity in abundance of fish in Washington.] Report, 1899 (1900), p. 274-277.

GREAT LAKES.

- Lafin & Co.:** Need of a national law to regulate the size of mesh of both pound and gill nets on the Great Lakes. Bulletin, 1884 (1884), vol. IV, p. 223-224. F18-292
- Milner, James W.:** [Diminution of food-fishes of the Great Lakes.] Report, 1871 and 1872 (1873), p. 1-72.
- Sheley, G. A.:** Destruction of fish caused by nets of small mesh in Lake Michigan. Bulletin, 1884 (1884), vol. IV, p. 353. F18-331
- Smith, Hugh McCormick:** [Causes of the decreased abundance of fish in the Great Lakes.] Report, 1887 (1891), p. 152, 215-216, 243-244.
- Sterling, E.:** Notes on the Great Lakes fisheries, depletion of black bass, etc. Bulletin, 1884 (1884), vol. IV, p. 218-219. F18-287

GULF OF ST. LAWRENCE.

- Collins, Joseph William:** On the scarcity of mackerel in the Gulf of St. Lawrence. Bulletin, 1884 (1884), vol. IV, p. 427-430 and 435-438. F13-119 and F18-359

ONTARIO.

Wilmot, Samuel: Introduction of California salmon into Ontario, with remarks on the disappearance of Maine salmon from that province. Bulletin, 1881 (1882), vol. I, p. 347-349. F20-146

EUROPE.

BELGIUM.

Selys-Longchamps, Edmond, i. e. Michel Edmond Selys de: Repopulation of the water-courses in Belgium. Report, 1881 (1884), p. 815-824. F16-343

FRANCE.

Gifford, George: The disappearance of sardines from the Vendean coast, and its causes. Bulletin, 1882 (1883), vol. II, p. 4. F18-63

GERMANY.

Behr, Friedrich von: [Decrease of fish in Germany.] Report, 1875-76 (1878), p. 1016-1024.

Benecke, Berthold: [Decrease of the fisheries in Germany.] Report, 1884 (1886), p. 1186.

Möbius, Karl August: Can we do anything to decrease, preserve, or increase the number of our useful marine animals? Bulletin, 1883 (1883), vol. III, p. 393-400. F12-421

GREAT BRITAIN.

Bertram, James G.: [On the possibility of exhausting the sea fisheries of Europe.] Report, 1871-72 (1873), p. 141-144.

Commissioner appointed to inquire into the sea fisheries: [Extracts from the Report of the Commissioners appointed to inquire into the sea fisheries of the United Kingdom; presented to both houses of Parliament by command of Her Majesty. London, 1861.] Report, 1871-72 (1873), p. 145-148. F16-58

Royal commission on trawling: [On the diminution of the ocean fisheries.] Bulletin, 1885 (1885), vol. V, p. 96-99.

Scotland. Fishery Board: [Diminution of fish in Scotland.] Report, 1882 (1884), p. 230-236.

NORWAY.

Ljungman, Axel Vilhelm: [Causes for the diminution of the salt-water fisheries of Bohuslan.] Report, 1878 (1880), p. 206-220.

RUSSIA.

Soudakevicz, Theodore: [The decrease of food fishes in Russia.] Report, 1872-73 (1874), p. 493-495.

BALTIC SEA.

Widegren, Hjalmar: [Diminution of the fisheries of the Baltic.] Report, 1878 (1880), p. 125-126.

INDIA.

Day, Francis: [Decrease of fisheries in India.] Report, 1883 (1885), p. 385-388

SPECIES.

BLUEFISH.

Baird, Spencer Fullerton: [Diminution of the scup and bluefish in New England.] Report, 1871-72, (1873) p. 229, 235-252.

CATFISH.

Smith, Hugh McCormick: [Diminution of catfish.] Report, 1897 (1898), p. XCVIII-XCIX.

GRAYLING.

Fitzhugh, D. H.: [Decrease of grayling in Au Sable River.] Bulletin, 1884 (1884), vol. IV, p. 470.

HERRING.

Jensen, Olaf Scheveland: Report on the practical and scientific investigations of the spring herring fisheries, during the year 1880, submitted to the Department of the Interior. Report, 1880 (1883), p. 127-161. F16-288

Ljungman, Axel Vilhelm: Contribution toward solving the question of the secular periodicity of the great herring fisheries. Report, 1879 (1882), p. 497-503. F17-6

Moore, Henry Frank: [Decrease of the herring in the waters of Passamaquoddy Bay and vicinity.] Report, 1896 (1898), p. 417-430.

MACKEREL.

Moore, J. Percy: [Diminution of mackerel.] Report, 1898 (1899), p. 3-4.

MENHADEN.

Goode, George Brown: [Diminution of menhaden.] Report, 1877 (1879), p. 101-112.

POMPANO.

Wilcox, William A.: [Diminution of pompano.] Report, 1896 (1898), p. 252.

SALMON.

Redding, Joseph D.: Causes of the decrease of salmon in the Sacramento River. Bulletin, 1887 (1889), vol. VII, p. 57-58. F18-649

U. S. Commissioner of Fisheries: [Diminution of salmon.] Report, 1898 (1899), p. XX-XXIV.

Watson, W. C.: [The disappearance of the salmon and its causes.] Report, 1873-74 and 1874-75 (1876), p. 534-538.

SHAD.

Milner, James W.: [Diminution of shad.] Report, 1873-74 and 1874-75 (1876), p. 354-362.

Slack, James H.: [The causes of decrease of shad in the Delaware.] Report, 1872-73 (1874), p. 457-458.

Stevenson, Charles H.: The restricted inland range of shad due to artificial obstructions, and its effect on natural reproduction. Bulletin 1897 (1898), vol. XVII, p. 265-271. Doc. 376 issued Aug. 8, 1898. F12-110

— [Diminution of shad of the Atlantic coast of the United States.] Report, 1898 (1899), p. 103-127.

Yarrow, Harry Crécy: [Great decrease of shad in Georgia and North Carolina.] Report, 1872-73 (1874), p. 396-397.

TILEFISH.

Baird, Spencer Fullerton: [Diminution of tilefish.] Report, 1882 (1884), p. LII.

FISHERMEN.

UNITED STATES.

GENERAL.

Collins, J. W.: [Extracts from records and reminiscences of fishermen.] Report, 1881 (1884), p. 307-443.

Freeman: [Cape Cod fishermen.] Quoted by Goode in The fisheries and fishery industries of the United States. 1887. Sec. IV, p. 146-149.

Goode, G. Brown, and Joseph William Collins: The fishermen of the United States. In The fisheries and fishery industries of the United States. 1887. Sec. IV, 145 p.; Appendix, 19 p.

ALASKA.

Bower, Ward Taft and H. C. Fassett: [Alien fishermen in Alaska.] Appendix II, Report, 1913 (1914), p. 39-40.

CALIFORNIA.

San Francisco Chronicle: Italian fishermen in San Francisco. Bulletin, 1885 (1885), vol. V, p. 281-283. F18-439

FLORIDA.

Collins, Joseph William: [The fishermen engaged in the fisheries of western Florida.] Report, 1885 (1887), p. 282-283.

Wilcox, William A.: [Fishermen of Indian River, Florida.] Report, 1896 (1898), p. 257-258.

TEXAS.

Stevenson, Charles Hugh: [Fishermen engaged in the coast fisheries of Texas.] Report, 1889-1891 (1893), p. 375.

GREAT LAKES.

Smith, Hugh McCormick: [The fishermen of the Great Lakes in 1885.] Report, 1887, 1891 p. 35, 43-44, 57, 72, 93, 107, 171, 174-176, 178, 185, 214, 247, 290-292, 298, 306, 308, 310.

—— [Fishermen of the Pacific coast of the United States.] Report, 1888-89 (1893), p. 46, 51, 59, 64, 75, 100-103, 127-128, 144, 163-164, 172, 180-181, 184, 186, 188, 194, 197, 204, 238, 241, 245.

Wilcox, William A.: [Pacific coast fishermen.] Report, 1893 (1895), p. 139-304.

EUROPE.

ICELAND.

Annaniassen, A.: [Fishermen of Iceland.] Report, 1884 (1886), p. 312-313.

Garde, Aug.: [Pay of Iceland fishermen.] Report, 1884 (1886), p. 303-307.

Thorsteinson, A.: [Food of fishermen in Iceland.] Report, 1884 (1886), p. 320-321.

SWEDEN.

Lundberg, Rudolph: [The fishermen of Sweden.] Report, 1884 (1886), p. 373.

INDIA.

Day, Francis: [Fishermen of India—Castes and condition.] Report, 1883 (1885), p. 385, p. 408-413.

HAWAIIAN ISLANDS.

Cobb, John Nathan: [Fishermen of the Hawaiian Islands.] Report, 1901 (1902), p. 387-393.

SPECIAL FISHERIES.

HADDOCK.

Goode, George Brown, and Collins, J. W.: [Types of men engaged in haddock fishery.] Bulletin, 1881 (1882), vol. I, p. 227.

HALIBUT.

Scudder, Newton Pratt: [Fishermen of the halibut fishery—Davis's Strait.] Report, 1880 (1883), p. 220-226.

MACKEREL.

Goode, George Brown: [Fishermen engaged in the mackerel fishery of the United States.] Report, 1881 (1884), p. 139, 173-174.

MENHADEN.

Greer, Rob Leon: [Fishermen of the menhaden fishery of the Atlantic coast.] Appendix III, Report, 1914 (1915), p. 26.

SALMON.

Cobb, John Nathan: [Fishermen and other employees engaged in the salmon fisheries of the Pacific coast.] Report and special papers, 1910 (1911), p. 35-36.

STURGEON.

Cobb, John Nathan: [Fishermen engaged in the sturgeon fishery of the Delaware River.] Report, 1899 (1900), p. 373.

MORTALITY.

- Benecke, Berthold:** [Dangers to fishermen.] Report, 1884 (1886), p. 1190-1191.
Bland, John: [A suggestion for avoiding the danger incident to the transfer of fish from the smacks to the collecting steamers.] Bulletin, 1884 (1884), vol. IV, p. 359-360.
Collins, Joseph William: Loss of life and property in the Gloucester fisheries. Bulletin, 1884 (1884), vol. IV, p. 180-181. F18-272
Forbes, Robert Bennet: Loss of life and property in the fisheries. Bulletin, 1884 (1884), vol. IV, p. 181-182. F18-273
Wilcox, William A.: A man killed by a swordfish. Bulletin, 1886 (1887), vol. VI, p. 417-418. F18-621

STATISTICS.

UNITED STATES.

GENERAL.

- Alexander, A. B.:** [Report on statistics of the fisheries of the United States and Alaska from 1901 to 1904.] Report, 1904 (1905), p. 146-149.
Baird, Spencer Fullerton: [Statistics of the food-fishes.] Report, 1877 (1879), p. 12-17; 1879 (1882), p. XV-XXII; 1880 (1883), p. XXIV-XXVII; 1881 (1884), p. XXV-XLII; 1883 (1885), p. LVII-LXXI; 1885 (1887), p. LVIII-LXXXII; 1886 (1889), p. 20-23.
Bowers, George M.: [Statistical inquiries concerning fisheries of the United States.] Report, 1901 (1902), p. 11-13.
Smiley, Charles Wesley: Methods and results of an effort to collect statistics of the fish trade throughout the United States. Bulletin, 1882 (1883), vol. II, p. 247-253. F12-361
 — Statistics of the imports and exports of fish, fish-oil, whalebone, etc., for ten years ending June 30, 1882. Bulletin, 1883 (1883), vol. III, p. 273-278 incl. tables. F18-134
 — A statistical review of the production and distribution to public waters of young fish by the United States Fish Commission, from its organization to the close of 1880. Report, 1881 (1884), p. 825-915. F16-345
 — Statistics of the United States imports and exports of fish, fish oil, whalebone, the tonnage of fishing vessels, etc., for the year ending June 30, 1883, and for the year ending June 30, 1884. Report, 1883 (1885), p. 301-315; 1884 (1886), p. 241-263. F17-26
Smith, Hugh McCormick: Statistics of the fisheries of the United States. Bulletin, 1893 (1894), vol. XIII, p. 389-417. Doc. 276 issued July 5, 1894. F12-183
 — Statistics of the fisheries of the interior waters of the United States. Report, 1896 (1898), p. 489-574. Doc. 361 issued Mar. 23, 1898. F11-184
U. S. Bureau of Fisheries: Statistical review of the coast fisheries of the United States. Report, 1888-89 (1892), p. 271-378. Doc. 177 issued Sept. 25, 1891. F15-56

ALABAMA.

Smith, Hugh McCormick: [Statistics of the fisheries of Alabama in 1894.] Report, 1895 (1896), p. 106. Report, 1896 (1898), p. 489-501, 531-533.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Alabama in 1887 and 1888.] Report, 1888-89 (1892), p. 365.
 ——— [Statistics of the fisheries of Alabama in 1897.] Report, 1899 (1900), p. 128-135.
 ——— [Statistics of the fisheries of Alabama in 1899.] Report, 1901 (1902), p. 693.
 ——— [Statistics of the fisheries of Alabama for 1902.] Report, 1903 (1905), p. 444-451.

ALASKA.

- Cobb, John Nathan:** The commercial fisheries of Alaska in 1905. (Statistics: p. 38-43.) Report and special papers, 1905 (1907), 46 p. *Doc. 603 issued Oct. 16, 1906.* 6-35319
Marsh, Millard Caleb: The fisheries of Alaska in 1908. (Statistics: p. 17.) Report and special papers, 1908 (1910), p. 17-19. *Doc. 645 issued Apr. 17, 1909.* 7-35263

ARKANSAS.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Arkansas for 1894.] Report, 1896 (1898), p. 543-547.
U. S. Bureau of Fisheries: [Statistics of the fisheries of Arkansas for 1899.] Report, 1901 (1902), p. 661-670, 701-707.

CALIFORNIA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of California.] Report, 1896 (1898), p. 572.
Townsend, Charles Haskins: [Statistics of the fisheries of southern California in 1898.] Report, 1898 (1899), p. CLXII-CLXIV.
U. S. Bureau of Fisheries: [Statistics of the fisheries of California in 1888.] Report, 1888-89 (1892), p. 374-376.

CONNECTICUT.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Connecticut in 1888.] Report, 1888-89 (1892), p. 316-322.
 ——— [Statistics of the fisheries of Connecticut in 1898.] Report, 1900 (1901), p. 379-386.
 ——— [Statistics of Connecticut in 1902.] Report, 1904 (1905), p. 316-325.
 ——— [Statistics of the fisheries of Connecticut in 1905.] Report, 1906 (1908), p. 83-93.

DELAWARE.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Delaware.] Report, 1888-89 (1892), p. 336-339.
 ——— [Statistics of the fisheries of Delaware.] Report, 1900 (1901), p. 263-267.
 ——— [Statistics of the fisheries of Delaware in 1901.] Report, 1902 (1904), p. 484-488.
 ——— [Statistics of the fisheries of Delaware in 1904.] Report, 1905 (1907), p. 62-66.

FLORIDA.

- Alexander, A. B.:** [Statistics of the fisheries of the interior waters of Florida in 1902.] Report, 1904 (1905), p. 133-134.
U. S. Bureau of Fisheries: [Statistical review of the coast fisheries of Florida.] Report, 1888-89 (1892), p. 360-364.
 ——— [Statistics of the fisheries of western Florida.] Report, 1899 (1900), p. 112-128.
 ——— [Statistics of the fisheries of eastern Florida.] Report, 1899 (1900), p. 218-227.
 ——— [Statistics of the fisheries of western Florida in 1902.] Report, 1903 (1905), p. 419-443.
 ——— [Statistics of the fisheries of eastern Florida in 1902.] Report, 1903 (1905), p. 397-410.
Wilcox, William A.: [Statistics of the fisheries of the Indian River, Florida, in 1895.] Report, 1896 (1898), p. 258-262.

GEORGIA.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Georgia.] Report, 1888-89 (1892), p. 350-360.
 ——— [Statistics of the fisheries of Georgia in 1897.] Report, 1899 (1900), p. 210-218.
 ——— [Statistics of the fisheries of Georgia in 1902.] Report, 1903 (1905), p. 386-397.

IDAHO.

Smith, Hugh McCormick: [Statistics of the fisheries of Idaho in 1894.] Report, 1896 (1898), p. 573-574.

ILLINOIS.

Smith, Hugh McCormick: [Statistics of the fisheries of Illinois in 1894.] Report, 1896 (1898), p. 519-523.

U. S. Bureau of Fisheries: [Statistics of the fisheries of Illinois in 1899.] Report, 1901 (1902), p. 676-684.

INDIANA.

Smith, Hugh McCormick: [Statistics of the fisheries of Indiana in 1894.] Report, 1896 (1898), p. 512-517.

U. S. Bureau of Fisheries: [Statistics of the fisheries of Indiana in 1899.] Report, 1901 (1902), p. 673-676.

IOWA.

Smith, Hugh McCormick: [Statistics of the fisheries of Iowa in 1894.] Report, 1896 (1898), p. 552-555.

U. S. Bureau of Fisheries: [Statistics of the fisheries of Iowa in 1899.] Report, 1901 (1902), p. 714-722.

——— [Statistics of the fisheries of Lake Pepin and Lake Keokuk during 1917.] Report, 1918 (1920), p. 77-80.

KANSAS.

Smith, Hugh McCormick: [Statistics of the fisheries of Kansas in 1894.] Report, 1896 (1898), p. 570-571.

U. S. Bureau of Fisheries: [Statistics of the fisheries of Kansas in 1899.] Report, 1901 (1902), p. 738-740.

KENTUCKY.

Smith, Hugh McCormick: [Statistics of the fisheries of Kentucky in 1894.] Report, 1896 (1898), p. 524-527.

U. S. Bureau of Fisheries: [Statistics of the fisheries of Kentucky in 1899.] Report, 1901 (1902), p. 685-688.

LOUISIANA.

Smith, Hugh McCormick: [Statistics of the fisheries of Louisiana in 1894.] Report, 1896 (1898), p. 538-542.

U. S. Bureau of Fisheries: [Statistical review of the coast fisheries of Louisiana.] Report, 1888-89 (1892), p. 368-370.

——— [Statistics of the fisheries of Louisiana in 1897.] Report, 1899 (1900), p. 145-159.

——— [Statistics of the fisheries of Louisiana in 1899.] Report, 1901 (1902), p. 697-701.

——— [Statistics of the fisheries of Louisiana in 1902.] Report, 1903 (1905), p. 465-473.

MAINE.

Earll, R. Edward: Statistics of the fisheries of Maine. (Census bulletin no. 278.) 1881, 47 p. *Doc. 45 issued May 2, 1882.* F12-239

U. S. Bureau of Fisheries: [Statistics of the fisheries of Maine in 1888.] Report, 1888-89 (1892), p. 288-297.

——— [Statistics of the fisheries of Maine in 1898.] Report, 1900 (1901), p. 322-340.

——— [Statistics of the fisheries of Maine in 1902.] Report, 1904 (1905), p. 253-277.

MARYLAND.

U. S. Bureau of Fisheries: [Statistical review of the coast fisheries of Maryland.] Report, 1888-89 (1892), p. 340-344.

——— [Statistics of the fisheries of Maryland in 1897.] Report, 1900 (1901), p. 268-287.

——— [Statistics of the fisheries of Maryland in 1901.] Report, 1902 (1904), p. 489-516.

MASSACHUSETTS.

- Cape Anne Breeze:** [Statistics of the fisheries of Gloucester for 1884.] Bulletin, 1885 (1885), vol. V, p. 343.
- Smith, Hugh McCormick:** [The fisheries of Boston and Gloucester in 1891.] Report, 1892, (1894), p. CLX-CLXIV.
- [Inquiries relative to the fisheries of Boston and Gloucester, 1893 to 1896.] Report, 1894 (1896), p. 162-166; 1895 (1896), p. 113-120; 1896 (1898), p. 130-136; 1897 (1898), p. CXXXII-CXXXVI.
- Townsend, Charles Haskins:** [The fisheries of Gloucester and Boston, 1897 to 1901.] [Report, 1898 (1899), p. CXLVIII-CLII; 1899 (1900), p. CLIII-CLVIII; 1900 (1901), p. 167-173; 1901 (1902), p. 142-149; 1902 (1904), p. 144-150.
- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Massachusetts in 1887 and 1888.] Report, 1888-89 (1892), p. 300-311.
- [Statistics of the fisheries of Massachusetts in 1898.] Report, 1900 (1901), p. 343-363.
- [Statistics of the Fisheries of Massachusetts in 1902.] Report, 1904 (1905), p. 281-305.
- [Statistics of the New England vessel fisheries at Boston and Gloucester.] Report, 1906 (1908), p. 16; 1907 (1909), p. 14; 1908 (1910), p. 13-16; 1909 (1911), p. 17-22; 1910 (1911), p. 23-27; 1911 (1913), p. 38-49; 1912 (1914), p. 24-37; 1913 (1914), p. 49-59; 1914 (1915), p. 6-18; 1915 (1917), p. 43-60; 1916 (1917), p. 76-95; 1917 (1919), p. 12-32; 1918 (1920), p. 38-61.

MICHIGAN.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Michigan in 1899.] Report, 1901 (1902), p. 654-655.

MINNESOTA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Minnesota in 1894.] Report, 1896 (1898), p. 560-564.
- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Minnesota in 1899.] Report, 1901 (1902), p. 725-730.

MISSISSIPPI.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Mississippi in 1894.] Report, 1896 (1898), p. 534-537.
- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Mississippi.] Report, 1888-89 (1892), p. 366-368.
- [Statistics of the fisheries of Mississippi in 1897.] Report, 1899 (1900), p. 135-144.
- [Statistics of the fisheries of Mississippi in 1899.] Report, 1901 (1902), p. 694-697.
- [Statistics of the fisheries of Mississippi in 1902.] Report, 1903 (1905), p. 451-464.

MISSOURI.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Missouri in 1894.] Report, 1896 (1898), p. 548-551.
- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Missouri in 1899.] Report, 1901 (1902), p. 707-713.

NEBRASKA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Nebraska in 1894.] Report, 1896 (1898), p. 568-569.
- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Nebraska in 1899.] Report, 1901 (1902), p. 734-737.

NEVADA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Nevada in 1894.] Report, 1896 (1898), p. 572.
- Townsend, Charles Haskins:** [Statistics of commercial fishing in Nevada in 1900.] Report, 1901 (1902), p. 162.

NEW HAMPSHIRE.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of New Hampshire in 1887 and 1888.] Report, 1888-89 (1892), p. 298-300.
 — [Statistics of the fisheries of New Hampshire in 1898.] Report, 1900 (1901), p. 341-342.
 — [Statistics of the fisheries of New Hampshire in 1902.] Report, 1904 (1905), p. 277-281.

NEW JERSEY.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of New Jersey.] Report, 1888-89 (1892), p. 328-332.
 — [Statistics of the fisheries of New Jersey in 1897.] Report, 1900 (1901), p. 222-254.
 — [Statistics of the fisheries of New Jersey in 1901.] Report, 1902 (1904), p. 458-477.
 — [Statistics of the fisheries of New Jersey in 1904.] Report, 1905 (1907), p. 29-55.
 — [Statistics of coastal fisheries of New York and New Jersey, by counties, exclusive of shellfish, 1915.] Report, 1916 (1917), p. 72-75.
 — [Statistics of the coastal fisheries of New York and New Jersey in 1917.] Report, 1918 (1920), p. 66-70.

NEW YORK.

- Smith, Hugh McCormick:** [Statistics of the fisheries of New York in 1894 and 1895.] Report, 1896 (1898), p. 502-507.
U. S. Bureau of Fisheries: [Statistics of the fisheries of New York in 1887 and 1888.] Report, 1888-89 (1892), p. 324-328.
 — [Statistics of the fisheries of New York in 1897.] Report, 1900 (1901), p. 203-222.
 — [Statistics of the fisheries of New York in 1899.] Report, 1901 (1902), p. 657.
 — [Statistics of the fisheries of New York in 1901.] Report, 1902 (1904), p. 442-457.
 — [Statistics of the fisheries of the interior lakes and streams of New York in 1903.] Report, 1904 (1905), p. 136.
 — Statistics of coastal fisheries of New York and New Jersey, by counties, exclusive of shellfish, 1915. Report, 1916 (1917), p. 72-75.
 — [Statistics of the coastal fisheries of New York and New Jersey in 1917.] Report, 1918 (1920), p. 66-70.
 — [Statistics of the wholesale fresh-fish trade of New York City in 1917.] Report, 1918 (1920), p. 73-76.

NORTH CAROLINA.

- U. S. Bureau of Fisheries:** [Statistical review of the fisheries of North Carolina.] Report, 1888-89 (1892), p. 352-356.
 — [Statistics of the fisheries of North Carolina in 1897.] Report, 1899 (1900), p. 177-203.
 — [Statistics of the fisheries of North Carolina in 1902.] Report, 1903 (1905), p. 350-377.

OHIO.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Ohio in 1894.] Report, 1896 (1898), p. 509-511.
U. S. Bureau of Fisheries: [Statistics of the fisheries of Ohio in 1899.] Report, 1901 (1902), p. 672.

OREGON.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Oregon in 1888.] Report, 1888-89 (1892), p. 376-377.
Wilcox, William A.: [Statistics of the fisheries of Oregon in 1889-1892.] Report, 1893 (1895), p. 213-239.
 — [The fisheries of Oregon in 1895.] Report, 1896 (1898), p. 615-631.
 — [Statistics of the fisheries of Oregon in 1899.] Report, 1901 (1902), p. 535-549.

PENNSYLVANIA.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Pennsylvania.] Report, 1888-89 (1892), p. 333-335.
 — [Statistics of the fisheries of Pennsylvania in 1897.] Report, 1900 (1901), p. 255-262.
 — [Statistics of the fisheries of Pennsylvania in 1901.] Report, 1902 (1904), p. 477-483.
 — [Statistics of the fisheries of Pennsylvania in 1904.] Report, 1905 (1907) p. 55-62.

RHODE ISLAND.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Rhode Island in 1887 and 1888.] Report, 1888-89 (1892), p. 312-316.
 — [Statistics of the fisheries of Rhode Island in 1898.] Report, 1900 (1901), p. 364-379.
 — [Statistics of the fisheries of Rhode Island in 1902.] Report, 1904 (1905), p. 305-316.

SOUTH CAROLINA.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of South Carolina.] Report, 1888-89 (1892), p. 356-358.
 — [The fisheries of South Carolina in 1897.] Report, 1899 (1900), p. 204-209.
 — [Statistics of the fisheries of South Carolina in 1902.] Report, 1903 (1905), p. 378-386.

SOUTH DAKOTA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of South Dakota in 1894.] Report, 1896 (1898), p. 564-567.
U. S. Bureau of Fisheries: [Statistics of the fisheries of South Dakota in 1899.] Report, 1901 (1902), p. 730-733.

TENNESSEE.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Tennessee in 1894.] Report, 1896 (1898), p. 528-530.
U. S. Bureau of Fisheries: [Statistics of the fisheries of Tennessee in 1899.] Report, 1901 (1902), p. 689-692.

TEXAS.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Texas.] Report, 1888-89 (1892), p. 371-373.
 — [Statistics of the fisheries of Texas in 1897.] Report, 1896 (1898), p. 160-169.
 — [Statistics of the fisheries of Texas in 1902.] Report, 1903 (1905), p. 474-481.

UTAH.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Utah in 1895.] Report, 1896 (1898), p. 571.
Townsend, Charles Haskins: [Statistics of the fisheries of Utah in 1900.] Report, 1902 (1904), p. 151-152.

VERMONT.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Vermont in 1894 and 1895.] Report, 1896 (1898), p. 501-502.
U. S. Bureau of Fisheries: [Statistics of the fisheries of the interior lakes and streams of Vermont in 1902.] Report, 1904 (1905), p. 137.

VIRGINIA.

- U. S. Bureau of Fisheries:** [Statistical review of the coast fisheries of Virginia.] Report, 1888-89 (1892), p. 345-351.
 — [Statistics of the fisheries of Virginia in 1897.] Report, 1900 (1901), p. 288-310.
 — [Statistics of the fisheries of Virginia in 1901.] Report, 1902 (1904), p. 517-540.

WASHINGTON.

- U. S. Bureau of Fisheries:** [Statistics of the fisheries of Washington in 1888.] Report, 1888-89 (1892), p. 377-378.
 — [Statistics of the vessel fisheries of Seattle in 1916.] Report, 1917 (1919), p. 40-43.
 — [Statistics of fishery products landed at Seattle.] Report, 1913 (1914), p. 62-64; 1918 (1920), p. 61-65.
Wilcox, William A.: [Statistics of the fisheries of Washington in 1889, 1890, 1891, and 1892.] Report, 1893 (1895), p. 255-297.
 — [Notes on the fisheries of Washington in 1895.] Report, 1896 (1898), p. 591-613.
 — [Statistics of the fisheries of Washington.] Report, 1901 (1902), p. 512-534.

WEST VIRGINIA.

- Smith, Hugh McCormick:** [Statistics of the fisheries of West Virginia in 1894.] Report, 1896 (1898), p. 508.
U. S. Bureau of Fisheries: [Statistics of the fisheries of West Virginia in 1899.] Report, 1901 (1902), p. 671.

WISCONSIN.

- Smith, Hugh McCormick:** [Statistics of the fisheries of Wisconsin in 1894.] Report, 1896 (1900), p. 556-559.
U. S. Bureau of Fisheries: [Statistics of the fisheries of Wisconsin in 1899.] Report, 1901 (1902), p. 656, 722-725.

GULF STATES.

- U. S. Bureau of Fisheries:** Statistics of the fisheries of the Gulf States. Report, 1899 (1900), p. 105-169 incl. tables. *Doc. 420 issued Oct. 9, 1899.* F11-105
 — Statistics of the fisheries of the Gulf States, 1902. Report, 1903 (1905), p. 411-481 incl. tables. *Doc. 571 issued 1905.* F12-233

MIDDLE ATLANTIC STATES.

- Smith, Hugh McCormick:** [Statistics of the fisheries of the Middle Atlantic States in 1892 and 1893.] Report, 1893 (1895), p. 53-57.
 — A statistical report on the fisheries of the Middle Atlantic States. Bulletin 1894 (1895), vol. XIV, p. 339-467. *Doc. 296 issued May 23, 1895.* F15-54
Townsend, Charles Haskins: [Statistics of the fisheries of the Middle Atlantic States in 1897.] Report, 1899 (1900), p. CLIX-CLXI.
U. S. Bureau of Fisheries: [Statistics of the fisheries of the Middle Atlantic States.] Report, 1888-89 (1892), p. 323-351.
 — Statistics of the fisheries of the Middle Atlantic States. Report, 1900 (1901), p. 195-311 incl. tables. *Doc. 453 issued Apr. 12, 1901.* F11-73
 — Statistics of the fisheries of the Middle Atlantic States. Report, 1902 (1904), p. 433-540 incl. tables. *Doc. 540 issued Oct. 27, 1903.* F11-7
 — Statistics of the fisheries of the Middle Atlantic States for 1904. Report and special papers, 1905 (1907), 122 p. *Doc. 609 issued Feb. 19, 1907.* 7-35091

NEW ENGLAND STATES.

- Smith, Hugh McCormick:** [Statistics of the fisheries of the New England coast in 1890.] Report, 1889-1891 (1893), p. 175-177.
 — [Statistics of the fisheries of the New England States in 1892.] Report, 1894 (1896), p. 122-147.
Townsend, Charles Haskins: [Statistics of the fisheries of the New England States in 1898.] Report, 1900 (1901), p. 174-177.
U. S. Bureau of Fisheries: Statistics of the fish and fisheries on the south shore of New England. Report 1871 and 1872 (1873), p. 173-181. F16-59
 — [Statistics of the fisheries of the New England States in 1887 and 1888.] Report, 1888-89 (1892), p. 286-322.
 — Statistics of the fisheries of the New England States. Report, 1900 (1901), p. 311-386 incl. tables. *Doc. 454 issued Apr. 12, 1901.* F11-72
 — [The fisheries of the New England States in 1902.] Report, 1904 (1905), p. 130-131.

- U. S. Bureau of Fisheries:** Statistics of the fisheries of the New England States, 1902. (Earlier publications of the Bureau relating to the fisheries of the New England States, p. 247.) Report, 1904 (1905), p. 245-325 incl. tables. *Doc. 575 issued July 14, 1905.* F14-136
- Statistics of the fisheries of the New England States for 1905. Report and special papers, 1906 (1908), 93 p. *Doc. 620 issued July 29, 1907.* 7-35283

PACIFIC COAST STATES.

- Smith, Hugh McCormick:** [Statistics of the fisheries of the Pacific coast in 1888 and 1889.] Report, 1889-1891 (1893), p. 174-175.
- [Statistics of the fisheries of the Pacific States in 1892.] Report 1893 (1895), p. 60-62.
- [Statistics of the fisheries of the Pacific States in 1896.] Report, 1897 (1898), p. CXXXVII-CXXXIX.
- Statistics of whaling, cod-fishing, and salmon-packing on the Pacific coast.** Bulletin, 1886 (1887), vol. VI, p. 89-90 incl. tables. F18-544
- U. S. Bureau of Fisheries:** [Statistical review of the fisheries of the Pacific Coast States in 1887 and 1888.] Report, 1888-89 (1892), p. 374-378.
- [Statistics of the fisheries of the Pacific Coast States in 1915.] Report, 1917 (1919), p. 34-39.

SOUTH ATLANTIC STATES.

- Townsend, Charles Haskins:** [Statistics of the fisheries of the South Atlantic States in 1897.] Report, 1898 (1899), p. CLVII-CLIX.
- U. S. Bureau of Fisheries:** [Statistical review of the fisheries of the South Atlantic States.] Report, 1888-89 (1892), p. 351-361.
- Statistics of the fisheries of the South Atlantic States. Report, 1899 (1900), p. 171-227 incl. tables. *Doc. 421 issued Oct. 9, 1899.* F11-106
- Statistics of the fisheries of the South Atlantic States, 1902. Report, 1903 (1905), p. 343-410 incl. tables. *Doc. 570 issued 1905.* F12-232
- [Statistics of the fisheries of the South Atlantic States in 1902.] Report, 1904 (1905), p. 131-132.

GREAT LAKES.

- Milner, James W.:** [Statistics of the fisheries of the Great Lakes for the year 1872.] Report, 1872 and 1873 (1874), p. 6-7.
- Smith, Hugh McCormick, and Merwin-Marie Snell:** Review of the fisheries of the Great Lakes in 1885. Report, 1887 (1891), p. 3-334, LXIV pl. (partly fold.) fold. maps. *Doc. 140 issued Mar. 2, 1891.* F11-330
- Townsend, Charles Haskins:** [Statistics of the fisheries of Lake Ontario in 1897.] Report, 1898 (1899), p. CLII-CLVI.
- [Statistics of the fisheries of Lakes Erie and Ontario in 1899.] Report, 1900 (1901), p. 164-166.
- [Statistics of the fisheries of the Great Lakes in 1899.] Report, 1901 (1902), p. 152-154.
- U. S. Bureau of Fisheries:** Statistics of the fisheries of the Great Lakes. Report, 1901 (1902), p. 575-657. *Doc. 506 issued Oct. 24, 1902.* F11-29
- Statistics of the fisheries of the Great Lakes in 1903. Report, 1904 (1905), p. 643-731. *Doc. 593 issued Dec. 30, 1905.* F12-384
- [A statistical canvass of the fisheries of the Great Lakes, including Lake of the Woods, Rainy Lake, and Lakes Kabetogama and La Croix, during 1917.] Appendix X, Report, 1918 (1920), p. 42-47 incl. tables.

MISSISSIPPI RIVER.

- J. S. Bureau of Fisheries:** Statistics of the fisheries of the Mississippi River and tributaries. Report, 1901 (1902), p. 659-740. *Doc. 507 issued Oct. 25, 1902.* F11-30
- [Statistics of the fisheries of Lake Pepin and Lake Cooper (Mississippi River) in 1914.] Report, 1916 (1917), p. 58-60.

CANADA.

BRITISH COLUMBIA.

- Statistics of the fisheries of the province of British Columbia for 1884, 1885, 1886.** Bulletin, 1885 (1885), vol. V, p. 424-425; 1886 (1886), vol. VI, p. 110-111; 1887 (1888), vol. VII, p. 24-25, 159-160, tables. F18-551

ATLANTIC OCEAN.

Dambeck, Carl: Statistics of the most important fisheries of the North Atlantic. Report, 1873-74 and 1874-75 (1876), p. 21-24. F16-3

EUROPE.

AUSTRIA.

Peyrer, Karl: Fishery statistics of Austria. Report, 1876 (1878), p. 601-603.

FRANCE.

Statistics of the sea fisheries of France for the year 1884 [and 1885]. Bulletin, 1886 (1887), vol. VI, p. 219-221, 305; 1887 (1887), p. 51-55. F13-582

NORWAY.

Juel, Niels: Statistics of the Loffoden fisheries. Report, 1878 (1880), p. 245-254; 1881 (1884), p. 533-610. F16-160

The Norwegian fisheries for 1883, with statistics for previous years. Report, 1883 (1885), p. 359-369. F20-165

Strøm, Boye: Extracts from Norwegian official statistics of fisheries for the year 1880. Report, 1881 (1884), p. 611-617. F16-333

——— Statistics of Norwegian fisheries in 1880. Report, 1884 (1886), p. 333-351. F20-167

——— Extracts from the Norwegian fishery statistics for 1884. Report, 1885 (1887), p. 313-323. F16-333

SWEDEN.

Lundberg, Rudolph: [Statistics of the Swedish fisheries and remarks on the importance of scientific investigations concerning them.] Report, 1885 (1887), p. 390-395.

Widegren, Hjalmar: Statistical data regarding the Swedish fisheries. Report, 1873-74 and 1874-75 (1876), p. 31-34. F16-5

SPECIAL FISHERIES.

CAPELAN.

Sars, George Ossian: [Statistics of the capelan fisheries.] Report, 1880 (1883), p. 170-172, 177.

HALIBUT.

U. S. Bureau of Fisheries: [Statistics of the Pacific halibut and cod fisheries in 1916.] Report, 1916 (1917), p. 96-97.

MACKEREL.

Clark, A. Howard: [Statistics of the inspection of mackerel from 1804 to 1880 in Maine, Massachusetts, and New Hampshire.] Report, 1881 (1884), p. 252-307.

Earll, R. Edward: [Statistics of the Spanish mackerel fishery of the United States.] Report, 1880 (1883), p. 415-416.

——— [Statistics of the mackerel fishery in 1880.] Report, 1881 (1884), p. 214-221.

Earll, R. Edward; W. A. Wilcox; David W. Low; and A. Howard Clark: Statistics of the mackerel fishery. In *The fisheries and fishery industries of the United States*. 1887. Sec. V, vol. I, pt. II, p. 304-313.

Low, D. W.: [Statistics of the mackerel fishery in the Gulf of St. Lawrence, 1873-1881.] Report, 1881 (1884), p. 520.

MENHADEN.

Goode, George Brown: [Circular relating to statistics of the American menhaden fishery.] Report, 1877 (1879), p. 268-271.

SHAD.

Smiley, Charles Wesley: Statistics of the shad-hatching operations conducted by the United States Fish commission in 1881. Report, 1881 (1884), p. 1107-1119 incl. tables. F16-346

- Smiley, C. W.:** Statistics of the shad-hatching operations conducted by the United States Fish commission in 1882. Report, 1882 (1884), p. 903-913. F16-329
- U. S. Bureau of Fisheries:** [Statistics of the shad and alewife industry of Chesapeake Bay and tributaries in 1915.] Report, 1916 (1917), p. 65-70.
- [Statistics of the shad fishery of the Hudson River, 1915 and 1916.] Report, 1916 (1917), p. 76.
- [Statistics of the shad fishery of the Hudson River in 1917.] Report, 1918 (1920), p. 72.

STURGEON.

- Cobb, John Nathan:** [The statistics of the sturgeon fishery of the Delaware River and Bay.] Report, 1899 (1900), p. 379-380.

FISHING GROUNDS.

UNITED STATES.

GENERAL.

- Alexander, Alvin Burton; H. F. Moore; and W. C. Kendall:** Otter-trawl fishery. (Banks: p. 14.) Appendix VI, Report, 1914 (1915), 97 p., illus., fold. chart, fold. pl. *Doc. 816 issued Apr. 17, 1915.* F15-40
- Baird, Spencer Fullerton:** [Fishing grounds of the United States.] Report, 1881 (1884), p. XXV-XXXI.
- [Fishing grounds along the eastern coast of North America from the Straits of Florida to New Foundland.] Report, 1886 (1889), p. X-XIII.
- [Fishing grounds of eastern North America.] Report, 1886 (1889), p. 85-103.
- Cobb, John Nathan:** The commercial fisheries of Alaska in 1905. (Fishing grounds: p. 7-8, 10-12, 16-17, 21.) Report and special papers, 1905 (1907). *Doc. 603 issued Oct. 16, 1906.* 6-35319
- Collins, Joseph William:** [Fishing grounds of the Pacific coast of the United States.] Report, 1888-89 (1892), p. 9-10, 28-29, 31, 33, 37-38, 45-46, 51-52, 58-59, 64, 72-73, 147, 163, 172-173, 180, 184, 186, 190, 191, 193-194, 203-204, 230-231, 237-238, 241.
- Report on the discovery and investigation of fishing grounds made by the Fish commission steamer *Albatross* during a cruise along the Atlantic coast and in the Gulf of Mexico, with notes on the Gulf fisheries. Report, 1885 (1887), p. 217-311. *Doc. 119 issued Nov. 3, 1887.* F11-298
- Collins, J. W., and Richard Rathbun:** The sea fishing-grounds of the eastern coast of North America from Greenland to Mexico. *In* The fisheries and fishery industries of the United States. 1887. Sec. III, p. 5-78, 11 charts.
- Endicott, C.:** A good fishing ground in the south Indian Ocean. Bulletin, 1886 (1887), vol. VI, p. 80.
- Johnston, Edward C.:** Survey of the fishing grounds on the coasts of Washington and Oregon, in 1915. Appendix VI, Report, 1915 (1917), 20 p. incl. tables, 4 charts (part fold.). *Doc. 835 issued Nov. 9, 1916.* F16-332
- Jordan, David Starr:** The sea-fishing grounds of the Pacific coast of the United States, from the Straits of Fuca to Lower California. *In* The fisheries and fishery industries of the United States. 1887. Sec. III, p. 79-80.
- Radcliffe, Lewis:** The offshore fishing grounds of North Carolina. 6 p., illus. *Economic Circular 8 issued Feb. 25, 1914.* F14-120
- Rathbun, Richard:** [Report upon the inquiry respecting the fishing grounds of the Pacific and Atlantic coasts.] Report, 1888-1889 (1892), p. XLI-XLIII, XLVII-LXXVI.
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coasts of Washington and Oregon in 1914. Appendix VII, Report, 1914 (1915), 30 p., pl., fold. tab. [2], fold. charts. *Doc. 817 issued June 8, 1915.* F15-86
- Smith, Hugh McCormick:** [Fishing grounds off San Diego County, California.] Report, 1898 (1899), p. CXXXIX-CXL.
- Wilcox, William A.:** [Fishing grounds of Indian River, Florida.] Report, 1896 (1898), p. 249-251.

NEW ENGLAND.

- Baird, Spencer Fullerton:** [Models of the fishing grounds of the eastern coast of New England for exhibition at the London fishery exposition.] Report, 1882 (1884), p. LIII.
- Smith, Hugh McCormick:** [Fishing grounds for fishery products landed at Boston.] Report, 1892 (1894), p. CLX-CLXIV.
- [Georges Bank fishing-ground.] Report, 1893 (1895), p. 76-77.

GREAT LAKES.

Kumlien, Ludwig, and Frederick W. True: The fishing-grounds of the Great Lakes. In *The fisheries and fishery industries of the United States*. 1887. Sec. III, p. 117-131.

Smith, Hugh McCormick: [Fishing grounds of Lake Ontario.] Report, 1887 (1891), p. 306, 308, 311, 315, 319, 326-327.

——— [Fishing grounds of Lake Huron.] Report, 1892 (1894), p. 408-410.

——— [The fishing grounds of Lake Ontario.] Report, 1892 (1894), p. 444.

SPECIAL.

COD.

Cobb, John Nathan: Pacific cod fisheries. (Fishing grounds: p. 13-23.) Appendix IV, Report, 1915 (1917), 111 p. incl. tables, IX pl., fold. chart. *Doc. 830 issued Oct. 23, 1916.* F16-191

Earll, R. Edward: [Fishing grounds of the shore cod-fisheries of Cape Ann, Massachusetts.] Report, 1878 (1880), p. 692.

HADDOCK.

Goode, George Brown, and J. W. Collins: [Haddock fishing grounds.] Bulletin, 1881 (1882), vol. I, p. 226-227.

HALIBUT.

Alexander, Alvin Burton: Preliminary examination of halibut fishing grounds of the Pacific coast. Report and special papers, 1911 (1913), 56 p. *Doc. 763 issued July 22, 1912.* F12-203

Marsh, Millard Caleb, and John N. Cobb: Fisheries of Alaska in 1910. (Halibut grounds: p. 40-42.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263

Scudder, Newton Pratt: [The halibut fishing grounds—Davis' Strait.] Report, 1880 (1883), p. 193-195.

MACKEREL.

Earll, R. Edward: [Spanish mackerel fishing grounds.] Report, 1880 (1883), p. 406-407.

Goode, George Brown: [The mackerel fishing grounds.] Report, 1881 (1884), p. 172-173.

Smith, Hugh McCormick: [A voyage to the mackerel fishing grounds of Norway in 1891.] Report, 1894 (1896), p. 171-172.

——— [A voyage to the fishing grounds of Africa for mackerel in 1891.] Report, 1894 (1896), p. 171-172.

MENHADEN.

Greer, Rob Leon: The menhaden industry of the Atlantic coast. (Menhaden grounds: p. 10-11.) Appendix III, Report, 1914 (1915), 27 p., VII pl. (incl. front.). *Doc. 811 issued Apr. 7, 1915.* F15-39

——— The menhaden industry of the Atlantic coast. 30 p., VII pl. (incl. front.). *Doc. 811 reprinted with additions Oct. 18, 1917.* F17-263

SALMON.

Cobb, John Nathan: Salmon fisheries of the Pacific coast. (Fishing grounds: p. 12-22.) Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-303

STURGEON.

Cobb, John Nathan: [Sturgeon fishery grounds of Delaware River and Bay.] Report, 1899 (1900), p. 373.

FISH MARKETS.

EUROPE.

GERMANY.

Nuremberg carp exchange. Bulletin, 1885 (1885), vol. V, p. 428. F18-495

GREAT BRITAIN.

The fish supply of London. (Description of Billingsgate Market. Destruction of fish at Billingsgate Market.) Report, 1881 (1884), p. 643-661. F16-335

HAWAIIAN ISLANDS.

Cobb, John Nathan: [Fish markets and the handling of fishery products in the Hawaiian Islands.] Bulletin, 1903 (1905), vol. XXII, pt. II, p. 751-758.

FISH TRADE.

UNITED STATES.

GENERAL.

Blackford, Eugene Gilbert: [Salmon from Washington territory and shad from Florida and North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 409-410.

Smiley, Charles W.: Method and results of an effort to collect statistics of the fish trade and consumption of fish throughout the United States. Bulletin, 1882 (1883), vol. II, p. 274-252. F12-361

—— Statistics of the imports and exports of fish, fish-oil, whalebone, etc., for ten years ending June 30, 1882. Bulletin, 1883 (1883), vol. III, p. 273-278 incl. tables. F18-134

—— Statistics of the United States imports and exports of fish, fish-oil, whalebone, the tonnage of fishing vessels, etc., for the year ending June 30, 1883-84. Report, 1883 (1885), p. 301-316; 1884 (1886), p. 241-263, tables. F17-26

Smith, Hugh McCormick: Note regarding the promotion of fishery trade between the United States and Japan. Report, 1904 (1905), p. 239-243. *Doc. 576 issued July 17, 1905.* F10-5

Stevenson, Charles Hugh: A review of the foreign fishery trade of the United States. Report, 1894 (1896), p. 431-571. *Doc. 325 issued 1896.* F11-191

Wallem, Frederik Meltzer [The fresh-fish trade of the United States. North, America as a market for imported fish products.] Report, 1878 (1880), p. 77-785 83-89.

CALIFORNIA.

Dall, William Healey: Notes on the fishing products exported from San Francisco, Cal., during the year 1883. Bulletin, 1884 (1884), vol. IV, p. 125-128. F18-245

Sacramento Record: [Shipment of marine products from San Francisco to China.] Bulletin, 1886 (1887), vol. VI, p. 181.

Smith, Hugh McCormick: [Market fish and the fish trade of San Francisco.] Bulletin, 1894 (1895), vol. XIV, p. 282-285.

DISTRICT OF COLUMBIA.

Smiley, Charles W.: Inspection of fish and other marine products in the District of Columbia, 1879 to 1883, inclusive. Bulletin, 1884 (1884), vol. IV, p. 1-12. F13-77

—— Inspection of fish and other marine products in the District of Columbia. Bulletin, 1886 (1887), vol. VI, p. 47-48. F18-530

FLORIDA.

Wilcox, William A.: [Fish trade of Indian River, Florida.] Report, 1896 (1898), p. 257-25^c.

GEORGIA.

Carrington, William T.: [Fish and oyster trade of Brashear, La.] Bulletin, 1886 (1887), vol. VI, p. 141.

U. S. Bureau of Fisheries: [Notes on the wholesale fish trade of Georgia.] Report, 1899 (1900), p. 215-216.

MAINE.

Fish bureau in Portland, Maine. Bulletin, 1884 (1884), vol. IV, p. 310.

MASSACHUSETTS.

U. S. Bureau of Fisheries: [The wholesale fish trade of Boston and Gloucester, Mass.] Report, 1900 (1901), p. 361-363.

NEW YORK.

- Blackford, E. G.:** [Salmon from Nova Scotia, Massachusetts coast, and the Columbia River in New York market.] Bulletin, 1885 (1885), vol. V, p. 95.
New York Market Index and Journal: Report for 1879 and 1880 of the sale of fish in Fulton Market, New York. Bulletin, 1883 (1883), vol. III, p. 426-427.

GULF STATES.

- U. S. Bureau of Fisheries:** [The wholesale fishery trade of the Gulf States.] Report, 1899 (1900), p. 134-135, 141-144, 158-159, 169.
 — [The wholesale fishery trade of the Gulf States, 1902.] Report, 1903 (1905), p. 450-451, 462-463.

MIDDLE ATLANTIC STATES.

- U. S. Bureau of Fisheries:** [The wholesale fishery trade of the Middle Atlantic States.] Report, 1900 (1901), p. 254, 262, 267, 285-287, 309-310.
 — Statistics of the fisheries of the Middle Atlantic States for 1904. (Wholesale fishery trade: p. 62, 88, 121, 122.) Report and special papers, 1905 (1907), p. 62, 88, 121-122. *Doc. 609 issued Feb. 19, 1907.* 7-35891

NEW ENGLAND STATES.

- U. S. Bureau of Fisheries:** [The wholesale fish trade of the New England States.] Report, 1900 (1901), p. 338-339, 361-363, 378-379, 386.

PACIFIC COAST.

- Collins, J. W.:** [Market for fish and fish trade of the Pacific coast of the United States.] Report, 1888-89 (1892), p. 40-41, 47-49, 54-55, 87, 118-125, 157.
Dall, William Healey: Notes on the Pacific coast trade in shells, shrimp, cod, and salmon. Bulletin, 1883 (1883), vol. III, p. 425. F18-160
Wilcox, William A.: [The fish trade of the Pacific coast fisheries. Report, 1893 (1895), p. 208-211, 254.
 — The Commercial fisheries of the Pacific Coast States in 1904. (Wholesale fishery trade: p. 23-29.) Report and special papers, 1905 (1907). *Doc. 612 issued Feb. 25, 1907.* 7-35100

SOUTH ATLANTIC STATES.

- U. S. Bureau of Fisheries:** [The wholesale fishery trade of the South Atlantic States in 1902.] Report, 1903 (1905), p. 385, 397, 409.

GREAT LAKES.

- Smith, Hugh McCormick:** [The fish trade of Lake Erie.] Report, 1887 (1891), p. 237-238, 244, 248-249, 254, 269-270, 273, 275-276, 283, 287-288.
 — [Fish trade of Lake Huron, in 1885.] Report, 1887 (1891), p. 206, 214, 217-218, 221, 222.
 — [Fish trade of Lake Michigan in 1885.] Report, 1887 (1891), p. 94, 102, 111, 121-123, 130-131, 144, 148, 153, 167-168, 175, 186, 189, 198-199, 201.
 — [The fish trade of Lake Ontario.] Report, 1887 (1891), p. 323, 325.
U. S. Bureau of Fisheries: [The wholesale fishery trade of the Great Lakes in 1899.] Report, 1901 (1902), p. 596, 614-616, 626-627, 642-644.
 — [The wholesale fishery trade of the Great Lakes in 1903.] Report, 1904 (1905), p. 662-663, 682-683, 699, 702-703, 714-716.

GULF OF MEXICO.

- Collins, J. W.:** [Fish trade of the Gulf of Mexico, Key West, and Cuba.] Report, 1885 (1887), p. 271-273.

PORTO RICO.

- Wilcox, William A.:** Notes on the foreign fishery trade and local fisheries of Porto Rico. Report, 1899 (1900), 34 p. incl. tables, illus., 6 pl. *Doc. 418 issued Oct. 4, 1899.* F11-104
 — [Fishery products imported by Porto Rico.] Bulletin, 1900 (1902), vol. XX, pt. I, p. 41-48.
 — The fisheries and fish trade of Porto Rico in 1902. Report, 1902 (1904), p. 367-395 incl. tables. *Doc. 539 issued Sept. 19, 1903.* F11-5

EUROPE.

GERMANY.

Smith: [Imports and exports of Germany.] Bulletin, 1884 (1884), vol. IV, p. 366.

GREAT BRITAIN.

The fish supply of London. Report, 1881 (1884), p. 643-661. F16-335
London, Journal of the National Fish Culture Association: [Fish conveyed inland by railways in Great Britain.] Bulletin, 1886 (1887), vol. VI, p. 415.

NORWAY.

[Exports of fishery products from Norway.] Bulletin, 1886 (1887), vol. VI, p. 306.
Wallem, F. M.: Exports of the fish-oil from Norway, 1878-1882. Bulletin, 1883 (1883), vol. III, p. 240; 1884 (1884), vol. IV, p. 382. F18-129, F18-340

WHITE SEA.

Schultz, Alexander: [The fish trade of the White Sea, the Arctic Ocean, and Caspian Sea.] Report, 1873-74 and 1874-75 (1876), p. 51-52, 90-92.

OCEANICA.

AUSTRALIA.

Kohlo, Charles: [Fish and oysters for New South Wales.] Bulletin, 1884 (1884), vol. IV, p. 365.

HAWAIIAN ISLANDS.

Cobb, J. N.: [Fish trade, Hawaiian Islands.] Report, 1901 (1902), p. 442-451; 1904 (1905), p. 454-455.

SPECIAL.

CARP.

Kottbus, Handelskammer: The Cottbus carp trade. Bulletin, 1882 (1883), vol. II, p. 158. F18-94

Nicklas, Carl: [The sale of fish at the carp exchange at Cottbus, Province of Brandenburg, Prussia.] Report, 1884 (1886), p. 629.

[Price of carp in German markets in 1884.] Bulletin, 1886 (1887), vol. VI, p. 458.

Smith, Amos: [Prices of carp.] Bulletin, 1885 (1885) vol. V, p. 102.

Townsend, Charles Haskins: [The wholesale trade in carp in New York City. The carp trade in general.] Report, 1902 (1904), p. 153.

U. S. Bureau of Fisheries: Nuremberg carp exchange. Bulletin, 1885 (1885), vol. V, p. 428. F18-495

Zenk, F.: Prices of carp, tench, and goldorfe in Germany. Bulletin, 1883 (1883), vol. III, p. 406. F18-152

COD.

Cobb, John Nathan: Pacific cod fisheries. (Market in the West Indies, Hawaii, Mexico: p. 72-75.) Appendix IV, Report, 1915 (1917), 111 p. Doc. 830 issued Oct. 23, 1916. F16-191

Dambeck, Carl: [Cod-fish trade—Norway, Denmark, Sweden, Germany, and Newfoundland.] Report, 1877 (1879), p. 553-557.

Earll, R. E.: [Disposition of Cape Ann cod.] Report, 1878 (1880,) p. 700-704.

Friele, M.: [The codfish trade of Norway in 1877.] Report, 1877 (1879), p. 722-723.

German Fishery Association: [Codfish in the great markets of the world.] Bulletin, 1886 (1887), vol. VI, p. 310-311.

GOLDFISH.

[Goldfish trade of C. Wagner at Oldenberg, Germany.] Report, 1878, (1880), p. 683-684.

HERRING.

Lundberg, R.: [Herring fish trade of Sweden.] Report, 1884 (1886), p. 373-374.

SALMON.

- Cobb, John Nathan:** Salmon fisheries of the Pacific coast. (Trade with outlying possessions: pp. 138-153.) Report and special papers, 1910 (1911), 180 p. *Doc. 751 issued Nov. 25, 1911.* F11-393
- Scotch Fisheries Improvement Association:** [Salmon sold at Billingsgate.] Bulletin, 1886 (1887), vol. VI, p. 139.

SHAD.

- Wright, Harrison:** [The early shad fisheries of the north branch of the Susquehanna River—Country supply and trade.] Report, 1881 (1884), p. 623-624.

MISCELLANEOUS.

- Donnelly, Frank L.:** [Sales of fish.] Bulletin, 1884 (1884), vol. IV, p. 319.
- Hughes, Smith E.:** Experiments in penning sea fish. Bulletin, 1884 (1884), vol. IV, p. 377-380. F18-337
- Paulsen, Paul George:** The world's market for klip fish, roe, and herring. Bulletin, 1884 (1884), vol. IV, p. 392-393. F18-347
- Stange, J.:** Fish becoming blue and rigid during transportation. Bulletin, 1886 (1887), vol. VI, p. 64. F18-53
- U. S. Bureau of Fisheries:** Transportation of live fish. Bulletin, 1882 (1883), vol. II, p. 95-102, illus. F18-80
- The weight of fishes in different conditions. Bulletin, 1884 (1884), vol. IV, p. 391. F18-346

FISHWAYS.

UNITED STATES.

GENERAL.

- Atkins, Charles G.:** On fishways. Report, 1872-73 (1874), p. 591-616, pl. XX-XXXIV. F15-122
- Baird, Spencer Fullerton:** [The increase of food fishes by the use of fishways.] Report, 1885 (1887), p. LXXIII.
- Bayer, Hector von:** Fishways. (Authorities consulted; p. 1055.) Bulletin, 1908 (1910), vol. XXVIII, p. 1041-1057, diags. *Doc. 707 issued Apr. 19, 1910.* 10-35568
- Coker, Robert Ervin:** [The question of a practical and efficient fishway.] Appendix VIII, Report, 1913 (1914), p. 18-21.
- The question of fishways. 6 p. *Economic Circular 24 issued May 8, 1917.* F17-187
- McDonald, Marshall:** Report of Marshall McDonald, submitting plans and specifications of the fishways for the Great Falls of the Potomac River. Judd & Detweiler, 1884, 22 p., *Doc. 72 issued June 5, 1884.* F11-273
- A new system of fishway building. Report, 1882 (1884), p. 43-52. *Doc. 80 issued Aug. 15, 1884.* F11-269
- [Erection of fishways at the Great Falls of the Potomac] Report, 1889-1891 (1893) p. 68-69.
- Nowicki, M.:** Anton Pintsch's movable fishway. Bulletin, 1884 (1884), vol. IV, p. 209-212. F13-99
- U. S. Bureau of Fisheries:** Obstructions to the ascent of fish in certain rivers. [Communication from E. M. Stillwell, M. C. Edmunds, M. McKennie, J. F. Ingalls, James W. Milner.] Report, 1872-73 (1874), p. 617-633. F15-123

CALIFORNIA.

- Throckmorton, S. R.:** Description of the fishway in Pitt River, California. Bulletin, 1881 (1882), vol. I, p. 202-204. F18-37

ILLINOIS.

- [Fishways in Illinois.] Bulletin, 1885 (1885), vol. V, p. 343.

MONTANA.

- Waterbury, E. B.:** Obstructions to salmon in Pend d'Oreille River, Montana, requiring a fishway or removal of falls. Bulletin, 1883 (1883), vol. III, p. 421-423. F18-158

GERMANY.

- Keller, H.:** Freedom of migration for fish in Germany. Bulletin, 1886 (1887), vol. VI, p. 113-116. F18-553

FISHERIES CONSIDERED GEOGRAPHICALLY.

UNITED STATES.

GENERAL.

- Anderssen, Joakim:** Report on the department of fisheries in the World's exposition in Philadelphia, 1876. Report, 1878 (1880), p. 47-71. F16-154
- Baird, Spencer Fullerton, and Theodore Gill:** Memoranda of inquiry relative to the food-fishes of the United States. Report, 1871-72 (1873), 3 p. *Doc. 1 issued 1872 (?)*. F12-212
- Questions relative to the food-fishes of the United States. Report, 1871-72 (1873), p. 3-6. *Doc. 2 issued 1872 (?)*. F12-213
- The sea fisheries of the eastern North America. Report, 1886 (1889) 224 p. *Doc. 125 issued May 14, 1889*. F11-253
- Collins, J. W.:** [Attempts to use the beam trawl in the fisheries of the United States.] Bulletin, 1887 (1889), vol. VII, p. 400-404.
- [Notice of special matters affecting the fisheries of the United States.] Report, 1887 (1891), p. 353-359; 1888-1889 (1892), p. CVIII-CXIX.
- Field, Irving A.:** Unutilized fishes and their relation to the fishing industries. Report and special papers, 1906 (1908), 50 p., pl. *Doc. 622 issued Sept. 10, 1907*. 7-35352
- Goode, George Brown:** Plan of inquiry into the history and present condition of the fisheries of the United States. Report, 1880 (1883), p. 3-52. F16-285
- The food fishes of the United States . . . with discussions of the Pacific species by D. S. Jordan and T. H. Bean; notes on the fishes of the Gulf of Mexico, by S. Stearns; and contributions from J. W. Collins, N. E. Atwood, M. McDonald, R. E. Earll, L. Kumlien, and other authorities. *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 163-182.
- The status of the United States Fish commission in 1884. A review of what has been accomplished in fish culture, and the investigation of the American fisheries. Report, 1884 (1886), 42 p. F11-273
- [Methods to be adopted for the improvement of the fisheries of the United States.] Report, 1884 (1886), p. 1148-1152.
- The fisheries and fishery industries of the United States. Prepared through the cooperation of the Commissioner of fisheries and the Superintendent of the tenth census. (*Contents.*—Sec. I. Natural history of useful aquatic animals, by G. B. Goode, J. A. Allen, H. W. Elliot, F. W. True, E. Ingersoll, J. A. Ryder, R. Rathbun. Sec. II. A geographical review of the fisheries industries and fishing communities for the year 1880, by R. E. Earll, W. A. Wilcox, A. H. Clark, F. Mather, J. W. Collins, M. McDonald, S. Stearns, D. S. Jordan, F. W. True. Sec. III. The fishing grounds of North America, by R. Rathbun, J. W. Collins, D. S. Jordan, T. H. Bean, L. Kumlien, F. W. True. Sec. IV. The fishermen of the United States, by G. B. Goode, J. W. Collins. Sec. V. History and methods of the fisheries, by G. B. Goode, J. W. Collins, N. P. Scudder, T. H. Bean, A. H. Clark, R. E. Earll, S. Stearns, F. W. True, M. McDonald, W. A. Wilcox, C. G. Atkins, D. S. Jordan, C. H. Gilbert, L. Kumlien, A. H. Clark, J. T. Brown, H. W. Elliott, J. G. Swan, E. Ingersoll, R. Rathbun.) 1884-1887, 5 sections in 7 vols., plates, charts. F20-35
- Perce, H. W.:** National aspects of angling and protection of game fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 193-198. *Doc. 651 issued Jan. 31, 1910*. 10-35136
- Rathbun, Richard:** [Investigation of fisheries in waters contiguous to Canada and the United States.] Report, 1893 (1895), p. 20-22; 1894 (1896), p. 87-89; 1895 (1896), p. 77-79; 1896 (1898), p. 102-103.
- Smiley, Charles Wesley:** The principal river fisheries of the United States, with an estimate of the catch for 1880. Report, 1883 (1885), p. 281-300. F17-25
- Smith, Hugh McCormick:** The fyke nets and fyke-net fisheries of the United States, with notes on the fyke nets of other countries. Bulletin, 1892 (1894), vol. XII, p. 299-355, pl. LXXII-XCI. *Doc. 226 issued Nov. 9, 1895*. F12-164
- U. S. Bureau of Fisheries:** [The otter-trawl fishery from 1912 to 1915.] Report, 1915 (1917), p. 60-62.

- U. S. Bureau of Fisheries:** Report on statistics and methods of the fisheries. Report, 1889-91 (1893), p. 173-204; 1892 (1894), p. 133-191; 1893 (1895), p. 52-77; 1894 (1896), p. 115-175; 1895 (1896), p. 93-123; 1896 (1898), p. 119-145; 1897 (1898), p. 125-146, (by H. M. Smith); 1898 (1899), p. 147-175; 1899 (1900), p. 147-163; 1900 (1901), p. 163-184; 1901 (1902), p. 141-166; 1902 (1904), p. 143-160; (by C. H. Townsend); 1903 (1905), p. 101-122, (by B. W. Evermann); 1904 (1905), p. 121-162, (by A. B. Alexander).
- Fishery industries of the United States. Report of the division of statistics and methods of the fisheries * * * (by Lewis Radcliffe). Appendix X, Report, 1918 (1920), 167 p. *Doc. 875 issued Nov. 15, 1919*; Appendix X, Report, 1919 (1921) 191 p. *Doc. 892 issued Dec. 10, 1920.* F 19-41
- Wallen, Fredrik Meltzer:** Report on the American fisheries. Report, 1878 (1880), p. 75-115. F16-155

ALABAMA.

- Collins, Joseph William, and Hugh McCormick Smith:** [Fisheries of Alabama.] Bulletin, 1891 (1893), vol. XI, p. 138-144.
- Smith, Hugh McCormick:** [The fisheries of Alabama.] Report, 1895 (1896), p. 106.

ALASKA.

- Alexander, Alvin, B.:** [Notes on fishery investigations in Alaska by the *Albatross*, in 1894.] Report, 1895 (1896), p. 139-145.
- Bean, T. H.:** The fishery resources and fishing grounds of Alaska. In The fisheries and fishery industries of the United States. 1887. Sec. III, p. 81-115, 4 pl.
- Cobb, John Nathan:** The commercial fisheries of Alaska. Report and special papers, 1905 (1907), 46 p. *Doc. 603 issued Oct. 16, 1906.* 6-35319
- Pacific cod fisheries. (Bibliography: p. 108-111.) Appendix IV, Report, 1915 (1917), 111 p. *Doc. 830 issued Oct. 23, 1916.* F16-191
- Evermann, B. W.:** [Alaska salmon investigations.] Report, 1904 (1905), p. 87-102.
- French, Peter:** [Note on fisheries of Alaska.] Bulletin, 1886 (1887), vol. VI, p. 462.
- Krause, Karl E. H.:** Cod and halibut fisheries near the Shumagin Islands. Bulletin, 1881 (1882), vol. I, p. 259-260. F18-47
- Schwatka:** [The fisheries of Alaska.] Bulletin, 1886 (1887), vol. VI, p. 462-463.
- U. S. Bureau of Fisheries:** The fisheries of Alaska in 1906. (Report on the fisheries of Alaska, by John N. Cobb. Report on inspection of the salmon fisheries, by Howard M. Kutchin.) Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263
- The fisheries of Alaska in 1907. By Millard C. Marsh and John N. Cobb. Report and special papers, 1907 (1909), 77 p., pls., charts, illus. *Doc. 632 issued Apr. 16, 1908.* 7-35263
- The fisheries of Alaska in 1908. By M. C. Marsh and J. N. Cobb. Report and special papers, 1908 (1910), 78 p. *Doc. 645 issued Apr. 17, 1909.* 7-35263
- The fisheries of Alaska in 1909. By M. C. Marsh and J. N. Cobb. Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263
- The fisheries of Alaska in 1910. By M. C. Marsh and J. N. Cobb. Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263
- Alaska fisheries and fur industries in 1911. (General administrative report, by B. W. Evermann and F. M. Chamberlain. Statistics of the fisheries of Alaska for 1911, by J. N. Cobb and F. M. Chamberlain. Fish culture in Alaska, by W. T. Bower. Fur-seal service in 1911, by W. J. Lembkey.) Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388
- Fishery and fur industries of Alaska in 1912. (General administrative report, by B. W. Evermann. Fishery industries, by Fred M. Chamberlain and Ward T. Bower. Fur-seal service, by Walter I. Lembkey. Minor fur industries, by Harry J. Christoffers and Lee R. Dice.) Report and special papers, 1912 (1914), 123 p., pl. *Doc. 780 issued Nov. 16, 1913.* F12-388
- Alaska fisheries and fur industries in 1913. (General administrative report, by B. W. Evermann. Fishery industries, by Ward T. Bower and Harry Clifford Fassett. Fur-seal service, by Walter L. Lembkey.) Appendix II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388
- Alaska fisheries and fur industries in 1914. By Ward T. Bower and Henry D. Aller. Appendix IX, Report, 1914 (1915), 89 p. *Doc. 819 issued Sept. 23, 1915.* F12-388
- Alaska fisheries and fur industries in 1915. By Ward T. Bower and Henry D. Aller. Appendix III, Report, 1915 (1917), 140 p., illus. *Doc. 834 issued Jan. 6, 1917.* F12-388

- U. S. Bureau of Fisheries:** Alaska fisheries and fur industries in 1916. By Ward T. Bower and Henry D. Aller. Appendix II, Report, 1916 (1917), 118 p. *Doc. 838 issued Aug. 14, 1917.* F12-388
- Alaska fisheries and fur industries in 1917. By Ward T. Bower and Henry D. Aller. Appendix II, Report, 1917 (1919), 123 p. *Doc. 847 issued Dec. 28, 1918.* F12-388
- Alaska fisheries and fur industries in 1918. By Ward T. Bower. Appendix VII, Report, 1918 (1920), 128 p., X pl. *Doc. 872 issued Dec. 8, 1919.* F12-388
- Alaska fisheries and fur industries in 1919. By Ward T. Bower. Appendix IX, Report, 1919 (1921), 160 p. *Doc. 891 issued Dec. 11, 1920.* F12-388
- Wilcox, William A.:** [Growth of the fishery industry in Alaska.] Report, 1893 (1895), p. 297-304.

ARKANSAS.

- Lawrence, George W.:** [Letter referring to the presence of shad in the Ouachita River, Hot Springs County, Arkansas, in 1872.] Report, 1872 and 1873 (1874), p. 392-393.

CALIFORNIA.

- Buckingham, R. H.:** [Fish in California.] Bulletin, 1886 (1887), vol. VI, p. 415.
- Holder, Charles Frederick:** Sport fishing in California and Florida. Bulletin, 1908 (1910), vol. XXVIII, p. 199-207, VI pl. *Doc. 652 issued Feb. 28, 1910.* 10-35268
- Smith, H. M.:** [Lake fisheries of California, 1894-1895.] Report, 1896 (1898), p. 128.
- [Fisheries of interior waters of California, with especial reference to Lake Tahoe.] Report, 1896 (1898), p. 572-573.
- Tanner, Z. L.:** [Investigations of the fisheries of California by the *Albatross*, 1889 to 1891.] Report, 1889-91 (1893), p. 215-226, 271-279.
- Townsend, Charles Haskins:** [Fisheries of San Francisco in 1898 and 1899.] Report, 1899 (1900), p. CL-CLII.
- U. S. Bureau of Fisheries:** Correspondence relating to the San Joaquin River and its fishes. Report, 1873-74 and 1874-75 (1876), p. 479-483. F16-24
- Wilcox, William A.:** [The fisheries of California in 1889, 1890, 1891, and 1892.] Report 1893 (1895), p. 147-212.
- [Fisheries of California in 1895.] Report, 1896 (1898), p. 575-590, 633-659.
- [Fisheries of California in 1899.] Report, 1901 (1902), p. 549-574.

COLORADO.

- Evermann, Barton Warren:** [The fisheries of Colorado in 1900.] Report, 1903 (1905), p. 115-118.
- Smith, H. M.:** [The fisheries of Colorado in 1889.] Report, 1896 (1898), p. 126-127.

CONNECTICUT.

- Clark, A. Howard:** The coast of Connecticut and its fisheries. Notes on the general fisheries, gathered by W. A. Wilcox and Fred Mather. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. V, p. 311-340.

DELAWARE.

- Collins, Joseph William:** Delaware and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. IX, p. 407-419.
- [Fish factories on Delaware Bay offensive.] Bulletin, 1885 (1885), vol. V, p. 86.

FLORIDA.

- Adams, A. C., and William Converse Kendall:** Report upon an investigation of the fishing grounds off the west coast of Florida. Bulletin, 1889 (1891), vol. IX, p. 289-312, II illus., pl. CXI (fold.). *Doc. 162 issued July 24, 1891.* F12-150
- Collins, Joseph William:** [Notes on the fisheries of Key West and western Florida in 1885.] Report, 1885 (1887), p. 246-311.
- Collins, Joseph William, and Hugh McCormick Smith:** [Fisheries of Florida.] Bulletin, 1891 (1893), vol. XI, p. 108-138.
- Detwiler, John Y.:** Notes on the fishing industry of eastern Florida. Bulletin, 1897 (1898), vol. XVII, p. 309-312. *Doc. 386 issued Aug. 8, 1898.* F12-110

- Fisher, F. B.: Fishing and fish-culture in Florida. Bulletin, 1881 (1882), vol. I, p. 251.
- Holder, Charles Frederick: Sport fishing in California and Florida. Bulletin, 1908 (1910), vol. XXVIII, p. 199-207, VI pl. *Doc. 652 issued Feb 28, 1910.* 10-35268
- Rathbun, Richard: [Fishery investigations in Indian River.] Report, 1896 (1898), p. 112-113.
- Shepard, Joseph: [Note on the fisheries of St. Marys River.] Bulletin, 1886 (1887), vol. VI, p. 461.
- Smith, Hugh McCormick: [Fisheries of Florida.] Bulletin, 1891 (1893), vol. XI, p. 333-345.
- Stearns, Silas: On the position and character of the fishing grounds of the Gulf of Mexico. Bulletin, 1884 (1884), vol. IV, p. 289-290. F18-313
- The fisheries of Pensacola, Florida. Bulletin, 1885 (1885), vol. V, p. 245-247. F18-419
- Notes on the fisheries of Pensacola, Fla. Bulletin, 1886 (1887), vol. VI, p. 76-78. F18-538
- Some of the fisheries of western Florida. Bulletin, 1886 (1887), vol. VI, p. 465-467. F18-631
- U. S. Bureau of Fisheries: Report on the fisheries of Indian River, Florida, transmitted to the United States Senate by the Commissioner of fish and fisheries, January 5, 1897. (*Contents.*—Letter of transmittal, by J. J. Brice. Indian River and its fisheries, by B. W. Evermann and B. A. Bean. Commercial fisheries of Indian River, Florida, by W. A. Wilcox.) Report, 1896 (1898), p. 223-262, pl. 23-59. *Doc. 341 issued June 16, 1897.* F11-179
- Report on the fish and fisheries of the coastal waters of Florida transmitted to the United States Senate by the commissioner of fish and fisheries, January 28, 1897. Report, 1896 (1898), p. 263-342. *Doc. 342 issued Feb. 25, 1898.* F11-180

GEORGIA.

- Smith, Hugh McCormick: [Fisheries of Georgia.] Bulletin, 1891 (1893), vol. XI, p. 319-332.

ILLINOIS.

- Nelson, Edward William: Fisheries of Chicago and vicinity. Report, 1875-76 (1878), p. 783-800, illus. F16-69

LOUISIANA.

- Collins, Joseph William, and Hugh McCormick Smith: [The fisheries of Louisiana.] Bulletin, 1891 (1893), vol. XI, p. 155-171.
- Smith, Hugh McCormick: [The fisheries of Louisiana in 1894.] Report, 1895 (1896), p. 104-105.
- [Investigation of the fisheries of Louisiana in 1897.] Report, 1897 (1898), p. XCVIII-XCIX.

MAINE.

- Atkins, C. G.: [The river fisheries of Maine.] *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. XII, p. 673-728.
- Earll, R. Edward: The coast of Maine and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. I, p. 3-102.
- Smith, Hugh McCormick: [The fisheries of Passamaquoddy Bay, Maine, in 1896.] Report, 1896 (1898), p. 129.

MARYLAND.

- Earll, R. Edward: Maryland and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. X, p. 421-448.

MASSACHUSETTS.

- Anderssen, Joakim: [Note on the fisheries exhibit of Massachusetts at the World's exposition in Philadelphia, 1876.] Report, 1878 (1880), p. 52.
- Atwood, Nathaniel F.: Fisheries on the coast of Massachusetts. Remarks of Mr. Atwood of the cape district in relation to the petition to prohibit net and seine fisheries. Report, 1871-72 (1873), p. 117-124. F16-54

- Baird, Spencer Fullerton:** [Testimony and information from Vinal N. Edwards relative to the condition of the fisheries of Massachusetts in 1872.] Report, 1871-72 (1873), p. 182-195.
- Clark, A. Howard:** The fisheries of Massachusetts . . . Material for whale fishery and for Gloucester district gathered by A. Howard Clark; for Newburyport, Salem, Marblehead, Boston, Plymouth, New Bedford, and Fall River districts, by W. A. Wilcox; for Barnstable, Nantucket, and Edgartown districts, by F. W. True. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. III, p. 113-280.
- Elliott, James W.:** [Mackerel, codfish, herring, etc., off northeastern Massachusetts.] Bulletin, 1887 (1889), vol. VII, p. 33-34.
- Lyman, Theodore:** On the possible exhaustion of the sea-fisheries of Massachusetts. Report, 1871-72 (1873), p. 112-116. F16-53
- Martin, S. J.:** Some of the early results of the introduction of cod gill-nets at Gloucester, Massachusetts, 1880-81. Bulletin, 1883 (1883), vol. III, p. 153-158. F20-137
- Nye, Willard:** Notes on the fisheries of Buzzard's Bay and vicinity. Bulletin, 1887 (1889), vol. VII, p. 160. F18-665
- U. S. Bureau of Fisheries:** [Consideration of the fisheries of Massachusetts in a conference of the United States commissioner with commissioners of Rhode Island and Massachusetts.] Report, 1871-72 (1873), p. 125-131.
- Notes on the fisheries of Gloucester, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 66, 263, 265-266, 268, 381, 394-395, 419-420, 425-427; 1882 (1883), vol. II, p. 15-18, 91-93; 1883 (1883), vol. III, p. 162-178, 297-300; 1884 (1884), vol. IV, p. 89-96, 129-135, 191-193, 249-255, 401-411, 444-448; 1885 (1885), vol. V, p. 49-51, 57-63, 203-208; 1887 (1889), vol. VII, p. 66-71, 73-80. F18-654
- Wilcox, W. A., and Frederick W. True:** [The river fisheries of Massachusetts and New Hampshire.] *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. XII, p. 667-673.

MICHIGAN.

- Gauthier, C. W.:** [Fish transported from Duck Island to Detroit.] Bulletin, 1886 (1887), vol. VI, p. 408.

MISSISSIPPI.

- Collins, Joseph William, and Hugh McCormick Smith:** [Fisheries of Mississippi.] Bulletin, 1891 (1893), vol. XI, p. 145-154.

NEW HAMPSHIRE.

- Wilcox, W. A.:** The fisheries of New Hampshire. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. II, p. 103-112.

NEW JERSEY.

- Earll, R. Edward:** New Jersey and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. VII, p. 379-400.
- Seely, Uriah:** [Fish and lobsters in Raritan Bay.] Bulletin, 1886 (1887), vol. VI, p. 407.
- Smith, Hugh M.:** Economic and natural history notes on fishes of the northern coast of New Jersey. Bulletin, 1892 (1894), vol. XII, p. 365-380. Doc. 230 issued Mar. 8, 1894. F12-165

NEW YORK.

- Cobb, John Nathan:** The commercial fisheries of the interior lakes and rivers of New York and Vermont. Report, 1903 (1905), p. 227-245. Doc. 555 issued Jan. 21, 1905. F11-11
- Mather, Fred:** New York and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. VI, p. 341-377.

NORTH CAROLINA.

- Coxe, Frank:** Opening the Broad and other rivers of North Carolina to shad, bass, etc. Bulletin, 1884 (1884), vol. IV, p. 232. F18-294
- Earll, R. Edward:** North Carolina and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XII, p. 475-497.

- Milner, J. W.:** Summary of fishing records, for shad and alewives kept at Willow Branch fishery, North Carolina, from 1835-1874. Bulletin, 1881 (1882), vol. I, p. 396-401. F12-338
- Radcliffe, Lewis:** The offshore fishing grounds of North Carolina. 6 p., illus. *Economic Circular 8 issued Feb. 25, 1914.* F14-120
- Smith, Hugh McCormick:** [Fisheries of North Carolina.] Bulletin, 1891 (1893), vol. XI, p. 282-306.
- [Fisheries of the Albemarle region, North Carolina, in 1892.] Report, 1892 (1894), p. CLIX-CLX.
- [Condition of the fisheries of North Carolina.] Report, 1914 (1915), p. 23-25.

OREGON.

- Johnston, Edward C.:** Survey of the fishing grounds on the coasts of Washington and Oregon in 1915. Appendix VI, Report, 1915 (1917), 20 p., 4 charts (part fold.). *Doc. 835 issued Nov. 1916.* F16-332
- Rathbun, Richard:** [Investigations of the fisheries of Oregon by the steamer *Albatross* from July 1, 1888, to July 1, 1892.] Bulletin, 1892 (1894), vol. XII, p. 166-173.
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coasts of Washington and Oregon in 1914. Appendix VII, Report, 1914 (1915), 30 p., pl., fold. table, [2] fold. charts. *Doc. 817 issued June 8, 1915.* F15-86
- Smith, Hugh McCormick:** [Investigations of the lake fisheries of Oregon in 1897.] Report, 1898 (1899), p. CXXXII-CXXXVII.
- Tanner, Zera Luther:** [Investigations of the fisheries of Oregon in 1888, by the U. S. Fish commission steamer *Albatross*.] Bulletin, 1888 (1890), vol. VIII, p. 53-70.
- [Investigations of the fisheries of Oregon by the U. S. Fish commission steamer *Albatross* from July 1, 1889, to June 30, 1891.] Report, 1889-1891 (1893), p. 212-218, 271-275.
- U. S. Bureau of Fisheries:** Explorations of the fishing grounds of Alaska, Washington Territory, and Oregon, during 1888, by the U. S. Fish commission steamer *Albatross*, Lieut. Commander Z. L. Tanner, U. S. N., commanding. Bulletin, 1888 (1890), vol. VIII, p. 1-95 incl. tables, XII pl. (partly fold.). *Doc. 135 issued 1889.* F11-292

PENNSYLVANIA.

- Earll, R. Edward:** Pennsylvania and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. VIII, p. 401-405.

RHODE ISLAND.

- Clark, A. Howard:** The fisheries of Rhode Island. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. IV, p. 281-310.
- Rhode Island, General Assembly:** [Report of committee of Rhode Island legislature, made at Newport, June 15, 1870, on the fisheries of Rhode Island.] Report, 1871 and 1872 (1873), p. 104-111.
- A petition to the Fish commission of the United States, signed by the fishermen of Block Island, June 12, 1877. Report, 1878 (1880), p. 35-39. F16-152

SOUTH CAROLINA.

- Earll, R. Edward:** The fisheries of South Carolina and Georgia. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XIII, p. 499-518.
- Smith, Hugh McCormick:** [Fisheries of South Carolina.] Bulletin, 1891 (1893), vol. XI, p. 307-318.

TEXAS.

- Collins, Joseph William, and Hugh McCormick Smith:** [The fisheries of Texas.] Bulletin, 1891 (1893), vol. XI, p. 172-184.
- Stevenson, Charles Hugh:** Report on the coast fisheries of Texas. Report, 1889-1891 (1893), p. 373-420, frontis pls. 12-27. *Doc. 218 issued Nov. 4, 1893.* F16-83

UTAH.

- Smith, Hugh McCormick:** [Fisheries of Utah in 1895.] Report, 1896 (1898), p. 127.

VERMONT.

- Cobb, John Nathan:** The commercial fisheries of the interior lakes and rivers of New York and Vermont in 1902. Report, 1903 (1905), p. 227-246. *Doc. 555 issued Jan. 21, 1905.* F11-11

VIRGINIA.

- Downman, R. H.:** Shad, herring, etc., excluded from the Rappahannock River by dams. Bulletin, 1883 (1883), vol. III, p. 392. F18-149
- McDonald, Marshall:** Virginia and its fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XI, p. 449-473.
- Milner, James W.:** Report of the Triana trip. Report, 1873-74 and 1874-75 (1876), p. 351-362. F16-19
- Wilkins, J.:** The fisheries of the Virginia coast. Bulletin, 1893 (1894), vol. XIII, p. 355-356.

WASHINGTON.

- Johnston, Edward C.:** Survey of the fishing grounds on the coasts of Washington and Oregon in 1915. Appendix VI, Report, 1915 (1917), 20 p., incl. tables, 1 chart. *Doc. 835 issued Nov. 9, 1916.* F16-332
- Rathbun, Richard:** [Investigations of the fishing grounds of Washington by the U. S. Fish commission steamer *Albatross* from July 1, 1888, to July 1, 1892.] Bulletin, 1892 (1894), vol. XII, p. 159-166.
- A review of the fisheries in the contiguous waters of the State of Washington and British Columbia. Report, 1899 (1900), p. 251-350. *Doc. 423 issued Nov. 15, 1899.* F11-108
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coast of Washington and Oregon in 1914. Appendix VII, Report, 1914 (1915), 30 p., pl., fold. table, [2] 1 fold. charts. *Doc. 817 issued June 8, 1915.* F15-86
- Tanner, Zera Luther:** [Report on the investigations of the fisheries of Washington by the U. S. Fish commission steamer *Albatross* from July 1, 1889, to June 30, 1891.] Report, 1889-1891 (1893), p. 210-218, 271-275.
- U. S. Bureau of Fisheries:** Explorations of the fishing grounds of Alaska, Washington Territory, and Oregon, during 1888, by the U. S. Fish commission steamer *Albatross*, Lieut. Z. L. Tanner, U. S. N., commanding. Bulletin, 1888 (1890), vol. VIII, p. 1-95 incl. tables, XII pl. (partly fold.). *Doc. 135 issued 1889.* F11-292

ATLANTIC STATES.

- McDonald, Marshall:** The river fisheries of the Atlantic States. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. XII, p. 611-728.
- Smith, Hugh M.:** Report on the fisheries of the South Atlantic States. Bulletin, 1891 (1893), vol. XI, p. 269-356 incl. tables, pl. XLIII-LXXIV. *Doc. 212 issued June 12, 1893.* F12-406
- True, Frederick W.:** The pound-net fisheries of the Atlantic States. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, p. 595-609.
- U. S. Commissioner of Fisheries:** [The fisheries of the Middle Atlantic States in 1892.] Report, 1892 (1894), p. XII-XIII.

GULF STATES.

- Collins, Joseph William, and Hugh M. Smith:** Report on the fisheries of the Gulf States. Bulletin, 1891 (1893), vol. XI, p. 91-184. *Doc. 206 issued Nov. 26, 1892.* F12-124
- Smith, Hugh M.:** [Investigations of the fisheries of the Gulf States.] Report, 1889-1891 (1893), p. 179-180.

NEW ENGLAND STATES.

- Baird, Spencer Fullerton:** [Notices in regard to the abundance of fish of the New England coast in former times.] Report, 1871 and 1872 (1873), p. 149-172.
- Supplementary testimony and information relative to the condition of the fisheries of the south side of New England taken in 1872. Notes taken by the commissioner. Report of Vinal N. Edwards. Additional notes taken by the commissioner. Report, 1871 and 1872 (1873), p. 182-195. F16-60
- Natural history of some of the more important food-fishes of the south shore of New England. Report, 1871 and 1872 (1873), p. 228-252. F15-100

- Clark, A. Howard: Historical references to the fisheries of New England. *In* Appendix to the Fisheries and fishery industries of the United States. 1887. Sec. II, p. 675-737.
- Collins, Joseph William, and Hugh M. Smith: Report on the fisheries of the New England States. Bulletin, 1890 (1892), vol. X, p. 73-176 incl. tables. *Doc. 193 issued July 23, 1892.* F12-132
- Martin, Stephen J.: Notes on New England fisheries. Bulletin, 1881 (1882), vol. I, p. 133. F18-31
- Notes on New England food-fishes. Bulletin, 1881 (1882), vol. I, p. 202. F18-36
- Rhode Island, General Assembly: [Report on committee of Rhode Island legislature, made at Newport, June 15, 1870, on the condition of the sea fisheries of the south coast of New England in 1871 and 1872.] Report, 1871 and 1872 (1873), p. 104-111.
- U. S. Bureau of Fisheries: Testimony in regard to the present condition of the fisheries, taken in 1871. Report, 1871 and 1872 (1873), p. 7-72, illus. F16-50
- Special arguments in regard to regulating the sea fisheries by law. Arguments of Samuel Powel, esq., delivered in the Rhode Island legislature. Argument of J. M. K. Southwick. The food-fishes of the New England coast. By George H. Palmer. Report, 1871 and 1872 (1873), p. 73-103. F16-51
- [Miscellaneous correspondence and communications on the subject of the sea fisheries of the south coast of New England.] Report, 1871 and 1872 (1873), p. 135-138. F16-57
- Wilcox, W. A.: New England fisheries for 1885 and 1886. Bulletin, 1885 (1885), vol. V, p. 162-174, 197-199, 442-445, 1886 (1887); vol. VI, p. 33-39, 200-202, 210-212, 241-245, 273-275, 328-331, 332-336, 418-420, 423-424. F18-529

PACIFIC STATES.

- Baird, S. F.: [Proposed extension of fishery investigations by the *Albatross* to the Pacific.] Report, 1886 (1889), p. XV-XVI.
- Johnston, Edward C.: Survey of the fishing grounds on the coasts of Washington and Oregon in 1915. Appendix VI, Report, 1915 (1917), 20 p., 4 charts (part fold.). *Doc. 835 issued Nov. 9, 1916.* F16-332
- Jordan, David Starr: The fisheries of the Pacific coast. (E. Alaska and its fishery interests, by Tarleton H. Bean.) *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XVI, p. 589-630.
- Moser, Jefferson F.: [Fishery investigations of the steamer *Albatross* on the Pacific coast during 1897.] Report, 1897 (1898), p. CXLVII-CLII.
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll: Survey of the fishing grounds on the coast of Washington and Oregon in 1914. Appendix VII, Report, 1914 (1915), 30 p., pl. fold. table, 2 fold. chart. *Doc. 817 issued June 8, 1915.* F15-86
- Smith, Hugh McCormick: Notes on a reconnaissance of the fisheries of the Pacific coast of the United States in 1894. Bulletin, 1894 (1895), vol. XIV, p. 223-288. *Doc. 293 issued May 21, 1895.* F11-351
- [Shad, striped bass, catfish, and carp on the Pacific coast.] Report, 1896 (1898), p. 140-141.
- Townsend, Charles H.: [Fisheries of the Pacific coast.] Report, 1885 (1887), p. LXIX-LXX.
- U. S. Commissioner of Fisheries: [The Pacific coast fisheries for 1912 and 1913.] Report, 1913 (1914), p. 62-64.
- [Pacific coast fisheries.] Report, 1912 (1913), p. 37.
- Wilcox, William A.: The fisheries of the Pacific coast. Report, 1893 (1895), p. 139-304. *Doc. 299 issued Mar. 18, 1896.* F20-151
- Notes on the fisheries of the Pacific coast in 1895. Report, 1896 (1898), p. 575-659. *Doc. 362 issued Mar. 28, 1898.* F11-185
- Notes on the fisheries of the Pacific coast in 1899. Report, 1901 (1902), p. 501-574, pl. 28-29. *Doc. 505 issued Oct. 24, 1902.* F11-28
- The commercial fisheries of the Pacific Coast States for 1904. Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.* 7-35100

INTERIOR WATERS.

- Rathbun, Richard: [Investigations of interior water fisheries.] Report, 1896 (1898), p. 113-116, 119-128.

LAKE ST. CLAIR.

- Smith, Hugh McCormick:** [The fisheries of Lake St. Clair and of the St. Clair and Detroit rivers.] Report, 1887 (1891), p. 227-232; 1892 (1894), p. CXLVII; 1895 (1896), p. 100.
- U. S. Bureau of Fisheries:** [The fisheries of Lake St. Clair and of the St. Clair and Detroit rivers in 1899.] Report, 1901 (1902), p. 627-629.
- [The fisheries of Lake St. Clair and of the St. Clair and Detroit rivers in 1903.] Report, 1904 (1905), p. 700-703.

LAKE WASHINGTON.

- Rathbun, Richard:** [The fisheries of Lakes Washington and Pend d'Oreille in 1896.] Report, 1896 (1898), p. 115-116.
- Townsend, Charles Haskins:** [The fisheries of Lake-of-the-Woods in 1899.] Report, 1901 (1902), p. 151-152.

GREAT LAKES.

- Baird, Spencer Fullerton:** [Investigations of the fisheries of Great Lakes.] Report, 1872 and 1873 (1874), p. XIV-XVI.
- [Investigations of the fisheries of the Great Lakes.] Report, 1885 (1887), p. LX-LXII.
- Bissell, John H.:** The Canadian and American fisheries of the Great Lakes. Bulletin, 1887 (1889), vol. VII, p. 7-10 incl. tables. F18-635
- Kumlien, Ludwig:** The fisheries of the Great Lakes. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 1, pt. XII, p. 755-769.
- Milner, James W.:** Report on fisheries of the Great Lakes; the result of inquiries prosecuted in 1871 and 1872. Report, 1872-73 (1874), p. 178, pl. XXVII. F15-91
- Nelson, Edward William:** Fisheries of Chicago and vicinity. Report, 1875-76 (1878), p. 783-800, illus. F16-69
- Smiley, Charles Wesley:** Changes in the fisheries of the Great Lakes during the decade 1870-1880. Bulletin, 1881 (1882), vol. I, p. 252-258. F18-45
- Smith, Hugh McCormick:** Report on the fisheries of the Great Lakes. Report, 1892 (1894), p. 361-462. *Doc. 287 issued Dec. 20, 1894.* F14-54
- Smith, Hugh McCormick, and Merwin-Marie Snell:** A review of the fisheries of the Great Lakes in 1885. With introduction and description of fishing vessels and boats, by J. W. Collins. Report, 1887 (1891), p. 3-334. *Doc. 140 issued Mar. 2, 1891.* F11-330
- Report on the fisheries of Lake Ontario. Bulletin, 1890 (1892), vol. X, p. 177-215, pl. XXI-L. *Doc. 194 issued July 16, 1892.* F12-129
- [The fisheries of the Great Lakes in 1890.] Report, 1892 (1894), p. CXXXVI-CLIV.
- True, Frederick William:** The fisheries of the Great Lakes (elaborated from notes gathered by Mr. Ludwig Kumlien.) In The fisheries and fishery industries of the United States. 1887. Sec. II, p. XVII, p. 631-673.

COLUMBIA RIVER.

- Rathbun, Richard:** [Fishery investigation of the Columbia River basin.] Report, 1894 (1896), p. 100-102; 1895 (1896), p. 86-88; 1896 (1898), p. 113-114.

INDIAN RIVER.

- Rathbun, Richard:** [Fishery investigations in Indian River.] Report, 1896 (1897), p. 112-113.

MISSISSIPPI RIVER.

- U. S. Bureau of Fisheries:** [Fisheries of the Mississippi River and tributaries.] Report, 1901 (1902), p. 157-160.

POTOMAC RIVER.

- Milner, James W.:** Report of the Triana trip. Report, 1873-74 and 1874-75 (1876), p. 351-362. F16-19
- Smith, Hugh McCormick:** [Fisheries of the Potomac River and its tributaries.] Report, 1889-1891 (1893), p. 180-183.
- Wood, William Maxwell:** Report on the trap-nets fished in the spring of 1883 in the Potomac River and Chesapeake Bay. Bulletin, 1883 (1883), vol. III, p. 278-280 incl. tables. F18-135

GULF OF MEXICO.

- Collins, Joseph William:** Report on the discovery and investigation of fishing grounds made by the Fish commission steamer *Albatross* during a cruise along the Atlantic coast and in the Gulf of Mexico, with notes on the Gulf fisheries. Report, 1885 (1887), p. 217-311. *Doc. 119 issued Nov. 3, 1887.* F11-298
- Phillips, Barnet:** Notes on a trip in the Gulf of Mexico. Bulletin, 1884 (1884), vol. IV, p. 144. F18-254
- Rathbun, Richard:** [The fisheries of the Gulf of Mexico.] Report, 1888-89 (1892), p. LVI-LIX.
- Sellers, L. H.:** Abundance of fish in the Gulf of Mexico. Bulletin, 1885 (1885), vol. V, p. 304. F18-449
- Stearns, Silas:** Fluctuations in the fisheries of the Gulf of Mexico and the proposed investigation of them. Bulletin, 1883 (1883), vol. III, p. 467-468. F18-191
- Examination of the fisheries in the Gulf of Mexico. Bulletin, 1885 (1885), vol. V, p. 285-287. F18-441
- Stearns, Silas, and David Starr Jordan:** Fisheries of the Gulf of Mexico. In The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XV, p. 533-587.
- Tanner, Zera Luther:** Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1885. Report, 1885 (1887), 89 p. *Doc. 118 issued Nov. 3, 1887.* F11-299
- Wood, M. L.:** The fisheries of the Gulf of Mexico. Bulletin, 1882 (1883), vol. II, p. 19-20. F18-68

GULF OF ST. LAWRENCE.

- Low, D. W.:** [Itinerary of a mackerel voyage to the Gulf of St. Lawrence.] Report, 1881 (1884), p. 195-197.

CHESAPEAKE BAY.

- Collins, Joseph William:** [Investigation of the fisheries of Chesapeake Bay.] Report, 1887 (1891), p. 566-581.
- Rathbun, Richard:** [Fishery investigations in Chesapeake Bay.] Report, 1892 (1894), p. CVII.
- Smith, Hugh McCormick:** [The fisheries of lower Chesapeake Bay.] Report, 1889-1891 (1893), p. 184-194.
- Tanner, Zera Luther:** Report of an exploring trip of the steamer *Fish Hawk*, in Chesapeake Bay in the early spring of 1882. Bulletin, 1882 (1883), vol. II, p. 133-135. F12-351
- U. S. Bureau of Fisheries:** [Fisheries of Chesapeake Bay and its tributaries.] Report, 1915 (1917), p. 79.
- Wood, William Maxwell:** Report on the trap-nets fished in the spring of 1883 in the Potomac River and Chesapeake Bay. Bulletin, 1883 (1883), vol. III, p. 278-280 incl. tables. F18-135
- Report of a trip made by the *Fish Hawk* to the lower part of Chesapeake Bay, to ascertain the character of the fisheries for shad, herring, etc., in the spring of 1884. Bulletin, 1884 (1884), vol. IV, p. 199-200. F18-281

PUGET SOUND.

- Hammond, J. P.:** Fish in Puget Sound. Bulletin, 1886 (1887), vol. VI, p. 195-196. F18-572
- Swan, James G.:** Notes on the fisheries and the fishery industries of Puget Sound. Bulletin, 1893 (1894), vol. XIII, p. 371-380. *Doc. 274 issued June 16, 1894.* F12-183

CANADA.

GENERAL.

- Bissell, John H.:** The Canadian and American fisheries of the Great Lakes. Bulletin, 1887 (1889), vol. VII, p. 7-10, incl. tables.
- The fisheries of Canada in 1884.** Bulletin, 1886 (1887), vol. VI, p. 51-56. F18-531
- Joncas, Louis Zepherin:** The Canadian fisheries. Bulletin, 1884 (1884), vol. IV, p. 457-463. F13-75
- Rathbun, Richard:** [Fisheries in waters contiguous to Canada and the United States.] Report, 1893 (1895), p. 20-22; 1894 (1896), p. 87-89.
- Statements concerning the fisheries of several different countries.** (Nova Scotia, p. 1184-1185; Quebec, 1185-1186.) Comp. from the Consular report for 1882 and 1883. Report, 1883 (1885), p. 1183-1199. F17-43

BRITISH COLUMBIA.

- Rathbun, Richard:** A review of the fisheries in the contiguous waters of the State of Washington and British Columbia. Report, 1899 (1900), p. 251-350, pls. *Doc. 423 issued Nov. 15, 1899.* F11-108

LABRADOR.

- Hayward, Joseph H.:** Catch of fish in Newfoundland and Labrador in 1881. Bulletin, 1882 (1883), vol. II, p. 286. F18-103
Stearns, Winfrid Alden: The Labrador fisheries. Bulletin, 1885 (1885), vol. V, p. 6-27. F18-366

NEWFOUNDLAND.

- Anderssen, Joakim:** [Fisheries of Newfoundland.] Report, 1878 (1880), p. 64-67.
Collins, Joseph William: Fishing on an edge of the Grand Banks. Bulletin, 1885 (1885), vol. V, p. 256. F18-426
 — [The Newfoundland cod fishery.] Report, 1887 (1891), p. 529-546.
Donnelly, W. J. S.: Exports of fish and fishery products from Newfoundland during 1884. Bulletin, 1886 (1887), vol. VI, p. 14-16. F18-527
Harvey, Moses: Fishing and consumption of fish in Newfoundland. Bulletin, 1882 (1883), vol. II, p. 102. F18-81
Hayward, Joseph H.: Catch of fish in Newfoundland and Labrador in 1881. Bulletin, 1882 (1883), vol. II, p. 286. F18-103
U. S. Bureau of Fisheries: [Newfoundland fisheries.] Report, 1906 (1908), p. 24-25.

NOVA SCOTIA.

- Anderssen, Joakim:** [Brief account of the fisheries of Nova Scotia.] Report, 1878 (1880), p. 64-67.

WEST INDIES.

BAHAMA ISLANDS.

- Nye, Willard:** Fish and fishing at Abaco Island. Bulletin, 1886 (1887), vol. VI, p. 125-126.

PORTO RICO.

- U. S. Bureau of Fisheries:** Investigations of the aquatic resources and fisheries of Porto Rico by the United States fish commission steamer *Fish Hawk* in 1899. (*Contents.*—General report, by B. W. Evermann. The fisheries and fish trade of Porto Rico, by W. A. Wilcox. The fishes of Porto Rico, by B. W. Evermann and M. C. Marsh.) Bulletin, 1900 (1902), vol. XX, in 2 pts., illus., maps, pls. *Doc. 451 issued Dec. 15, 1900.* 5-4161
Wilcox, William A.: Notes on the foreign fishery trade and local fisheries of Porto Rico. Report, 1899 (1900), 34 p., incl. tables, illus., 6 pl. *Doc. 418 issued Oct. 4, 1899.* F11-104
 — The fisheries and fish trade of Porto Rico in 1902. Report, 1902 (1904), p. 367-395, incl. tables. *Doc. 539 issued Sept. 19, 1903.* F11-5

SOUTH AMERICA.

GENERAL.

- Krause, Hans Gunner:** The fisheries of the west coast of South America. Report, 1879 (1882), pl. 515-522. F17-8

BRITISH GUIANA.

- Quelch, J. J.:** Fish and fishing in British Guiana. Bulletin, 1893 (1894), vol. XIII, p. 237-240. *Doc. 260 issued June 9, 1894.* F12-183

PERU.

- Coker, Robert Erwin:** The fisheries and guano industry of Peru. Bulletin, 1908 (1910), vol. XXVIII, p. 333-365, pl. XII-XVII. *Doc. 663 issued February, 1910.* 10-35150

EUROPE.

GENERAL.

- Costa, Achille:** European authorities on the subject of regulating the fisheries by law. On the fisheries of the Gulf of Naples, by Achille Costa. On the possibility of exhausting the sea fisheries, by James G. Bertram. Extract from the London Field, 1871. Extracts from the report of the Commissioners appointed to inquire into the sea fisheries of the United Kingdom; presented to both houses of Parliament by command of Her Majesty. London, 1861. Report, 1871 and 1872 (1873), p. 139-148. F16-58
- Foreign fisheries in 1885.** Bulletin, 1886 (1887), vol. VI, p. 81-82 incl. tables. F18-541

AUSTRIA.

- Peyrer, Karl:** Fisheries and fishery laws in Austria and of the world in general. Report, 1873-74 and 1874-75 (1876), p. 570-679. F16-31
- [Sea fisheries of Austria-Hungary from 1877 to 1883.] Report, 1883 (1885), p. 1197-1199.

BELGIUM.

- Collins, J. W.:** [Beam-trawl fishery of Belgium.] Bulletin, 1887 (1889), vol. VII, p. 390-393.

DENMARK.

- Dambeck, Carl:** [Fisheries of Denmark.] Report, 1873-74 and 1874-75 (1876), p. 22. ——— Geographical distribution of the Gadidae or cod family, in its relation to fisheries and commerce. Report, 1877 (1879), p. 531-557. F16-108
- The fishing villages, Snekkersteen and Skotterup, and the collection of fishing implements exhibited by them at Elsinore, Denmark, during the summer of 1872. Report, 1873-74 and 1874-75 (1876), p. 173-181.
- Oterendorp, C. G. von:** A visit to the chief fishing places of Jutland. Bulletin, 1887 (1889), vol. VII, p. 101-104. F18-657

FRANCE.

- Collins, J. W.:** [Beam-trawl fishery of France.] Bulletin, 1887 (1889), vol. VII, p. 388-390.
- France, Minister of Marine and the Colonies:** Sea fisheries of France and Algeria. Bulletin, 1887 (1889), vol. VII, p. 51-55. F18-646
- Peixotto, Benjamin F.:** The sea fisheries of France and Algiers. Bulletin, 1884 (1884), vol. IV, p. 417-419. F13-117
- Statements concerning the fisheries of several countries.** (France: p. 1189.) Comp. from Consular report for 1882 and 1883. Report, 1883 (1885), p. 1183-1199. F17-43

GERMANY.

- Collins, J. W.:** [Beam-trawl fishery of Germany.] Bulletin, 1887 (1889), vol. VII, p. 398-399.
- Dantziger:** The first five years of the Emden joint-stock herring-fishery association. Report, 1877 (1879), p. 751-776. F16-115
- Hubner, A.:** Notes upon the increase and decrease of fish. Bulletin, 1886 (1887), vol. VI, p. 187-190. F18-569
- Keller, H.:** Freedom of migration for fish in Germany. Bulletin, 1886 (1887), vol. VI, p. 113-116. F18-553
- Möbius, Karl August:** Can we do anything to decrease, preserve, or increase the number of our useful marine animals? Bulletin, 1883 (1883), vol. III, p. 393-400. F12-421
- Peyrer, Karl:** [German fisheries.] Report, 1873-74 and 1874-75 (1876), p. 587-588.

GREAT BRITAIN.

- Alexander, Alvin B.; H. F. Moore; and W. C. Kendall:** Otter-trawl fishery. (Demersal fisheries of England, Wales, and Scotland: p. 57-90.) Appendix VI, Report, 1914 (1915), 97 p. Doc. 816 issued Apr. 17, 1915. F15-40
- Anderson, John:** Notes upon the Scotch fish and fisheries. Bulletin, 1885 (1885), vol. V, p. 217-221. F18-411

- Annaniassen, Abraham:** Klip fish at the Shetland Islands. Bulletin, 1885 (1885), vol. V, p. 316-319. F18-462
- Benecke, Berthold:** [Scotch fisheries.] Report, 1884 (1886) p. 7, 1188.
- Bertram, James G.:** [On the possibility of exhausting the sea fisheries. Extracted from the "Harvest of the Sea," a contribution to the natural and economic history of the British food-fishes.] Report, 1871 and 1872 (1873), p. 141-144.
- Carr, T. F. Robertson:** Notes on the Scotch fisheries. Bulletin, 1884 (1884), vol. IV, p. 64. F18-223
- Collins, J. W.:** The beam-trawl fishery of Great Britain, with notes on beam-trawling in other European countries. Bulletin, 1887 (1889), vol. VII, p. 289-407, illus., XXIII pl. (partly fold.). F11-329
- Duff, R. W.:** On the fisheries of Great Britain and the fisheries exhibition of 1883. Report, 1883 (1885), p. 317-324. F17-27
- Great Britain, Commissioners Appointed to Inquire into the Sea-Fisheries of the United Kingdom:** [Extracts from report of Commissioners, James T. Caird, T. H. Huxley, and G. S. Lefevre, appointed to inquire into the sea-fisheries of the United Kingdom; presented to both houses of Parliament by command of Her Majesty. London, 1861.] Report, 1871 and 1872 (1873), p. 145-148.
- Harding, Charles William:** Inquiries concerning the propagation of American smelt and shad, and notes on the fisheries of the Wash in England. Bulletin, 1881 (1882), vol. I, p. 428-429. F18-59
- Peyrer, Karl:** [Fisheries of Great Britain.] Report, 1873-74 and 1874-75 (1876), p. 585-586.
- The Scotch cod and ling fisheries.** Bulletin, 1884 (1884), vol. IV, p. 371-372. F18-334
- Scotland, Fishery board:** Extracts from the first annual report of the Fishery board of Scotland for the year ending December 31, 1882. (Contents—A. Scientific investigations proposed by the Fishery board of Scotland as necessary for the improvement of the fisheries. B. The effect of fixed engines on the salmon fisheries: a prize essay on salmon legislation in Scotland, by J. M. Leith. C. The herring, cod, and ling fisheries of 1882.) Report, 1882 (1884), p. 229-236. F16-318
- Southwell, Thomas:** Notes on the English herring fishery of 1882. Bulletin, 1883 (1883), vol. III, p. 465-466. F12-390
- Statements concerning the fisheries of several different countries.** (Comp. from the Consular report for 1882 and 1883.) Report, 1883 (1885), p. 1183-1199. F17-43

GREECE.

- Smidth, J. K.:** Historical observations on the condition of the fisheries among the ancient Greeks and Romans, and on their mode of salting and pickling fish. Report, 1873-74 and 1874-75 (1876), p. 3-20. F16-2

ICELAND.

- Annaniassen, A.:** Extracts from the report of A. Annaniassen on his voyage to Iceland. Manufacture of klip-fish. Report, 1884 (1886), p. 309-313. F17-129
- Collins, Joseph William:** The Icelandic halibut fishery. An account of the voyage of three Gloucester schooners to the fishing grounds near the north coast of Iceland. Report, 1884 (1886), p. 289-300. F17-128
- Finn, W.:** The Iceland herring fisheries. Report, 1879 (1882), p. 493-496. F17-5
- The fresh-water fishes of Iceland.** Report, 1884 (1886), p. 323-332. F20-121
- Garde, Aug.:** The fisheries of Iceland. Report, 1884 (1886), p. 301-308. F20-124
- The Iceland fresh-water fisheries.** Bulletin, 1886 (1887), vol. VI, 161-176. F18-566
- Thorarinsson, Bened S.:** Notes on the hatcheries and fresh-water fisheries of Iceland. Bulletin, 1887 (1889), vol. VII, p. 120-126. F18-661
- Thorsteinson, Árni Bjarnason:** Extracts from a review of A. Annaniassen's voyage to Iceland. Report, 1884 (1886), p. 315-322. F17-130
- Trolle, C.:** The Iceland fisheries. Report, 1880 (1883), p. 77-78. F16-301
- The Iceland cod fisheries in 1883. Report, 1883 (1885), p. 371-383. F17-31

ITALY.

- Costs, Achille:** [On the fisheries of the Gulf of Naples.] Report, 1871 and 1872 (1873), p. 139-148.
- Rossati, Guido:** Economic conditions of the fisheries in Italy. Bulletin, 1908 (1910), vol. XXVIII, p. 323-332. Doc. 662 issued February, 1910. 10-35158

- Smidth, J. K.:** Historical observations on the condition of the fisheries among the ancient Greeks and Romans, and on their mode of salting and pickling fish. Report, 1873-74 and 1874-75 (1876), p. 3-20. F16-2
- Worthington, John:** Falling off in the fisheries of Malta. Bulletin, 1885 (1885), vol. V, p. 400. F18-483
- The fisheries of Malta. Bulletin, 1885 (1885), vol. V, p. 457-462. F18-509

NETHERLANDS.

- Collins, J. W.:** [Beam-trawl fishery of Holland.] Bulletin, 1887 (1889), vol. VII, p. 393-398.
- [Fisheries of Amsterdam.] Report, 1883 (1885), p. 1192-1194.

NORWAY.

- Boeck, Axel, i. e. Jones, Axel, and A. Feddersen:** The Norwegian herring-fisheries. Report, 1873-74 and 1874-75 (1876), p. 97-122. F16-7
- Central administration of Norwegian fisheries needed.** Report, 1884 (1886), p. 353-361. F20-114
- Collins, Joseph William:** Gill-nets in cod fishery [a description of the Norwegian cod-nets, with directions for their use, and a history of their introduction into the United States]. Bulletin, 1881 (1881), vol. I, 17 p., XIII pl. *Doc. 37 issued June 30, 1881.* F12-219
- Gill-nets in the cod-fishery: A description of Norwegian cod-nets, etc., and history of their use in the United States. Report, 1884 (1886), p. 265-288, XII pl. F17-127
- Dambeck, Carl:** [Fisheries of Norway.] Report, 1873-74 and 1874-75 (1876), p. 21. F16-113
- Friele, M.:** An account of the fisheries of Norway in 1877. Report, 1877 (1879), p. 707-739. F18-589
- Heincke, Friedrich, i. e. Johann Friedrich:** The sea fisheries of Norway. Bulletin, 1886 (1887), vol. VI, p. 265-272. F16-160
- Juel, Niels:** Statistics of the Loffoden fisheries. Report, 1878 (1880), p. 245-254; 1881 (1884), p. 533-610. F17-150
- Kiaer, Anders Nicolai:** Notes on the Norwegian fisheries for 1885. Report, 1886 (1889), p. 1055-1064 incl. tables. F16-12
- New contributions to the herring question.** The dispute between Axel Boeck and Ossian Sars regarding the Norwegian summer-herring. Sars's recent observations and his new theory on the migrations of the herrings. Report, 1873-74 and 1874-75 (1876), p. 195-211. F16-4
- Norges Fiskeristyrelse:** On the fisheries of Norway. (Translation of a printed letter addressed to the United States Fish commissioner by the authorities of the Norwegian commission, in response to an application for documents relative to the fisheries of Norway and Sweden.) Report, 1873-74 and 1874-75 (1876), p. 25-30. F20-165
- The Norwegian fisheries in 1883,** with statistics of previous years. Report, 1883 (1885), p. 359-369. F18-541
- The Norwegian fisheries in 1885.** Bulletin, 1886 (1887), vol. VI, p. 82-83. F16-112
- Sars, George Ossian:** Reports made to the Department of the interior of investigations of the salt-water fisheries of Norway during the years 1874-1877. Report, 1877 (1879), p. 663-705. F16-111
- Report of practical and scientific investigations of the cod-fisheries near the Loffoden Islands, made during the years 1870-1873. Report, 1877 (1879), p. 612-661. F16-110
- Report of the practical and scientific investigations of the cod-fisheries near the Loffoden Islands, made during the years 1864-1869. Report, 1877 (1879), p. 565-611. F16-159
- Society for promoting the Norwegian fisheries.** By John Amelin and sixteen others. Report, 1878 (1880), p. 241-243. F16-333
- Ström, Boye:** Extracts from Norwegian official statistics of fisheries for the year 1880. Report, 1881 (1884), p. 611-617. F16-333
- Statistics of Norwegian fisheries in 1880. Report, 1884 (1886), p. 333-351 incl. tables. F16-333
- Extracts from the Norwegian fishery statistics for 1884. Report, 1885 (1887), p. 313-323 incl. tables. F16-333

PORTUGAL.

- Syle, L. du Pont:** Fisheries of Madeira in 1882. Report 1883 (1885), p. 1196-1197. F17-43

SPAIN.

- Collins, J. W.:** [Beam trawl fishery of Spain.] Bulletin, 1887 (1889), vol. VII, p. 399-400.
- Reed, Dwight T.:** [Fisheries of Spain in 1879.] Report, 1883 (1885), p. 1195-1199.

SWEDEN.

- Dambeck, Carl:** [Fisheries of Sweden.] Report, 1873-74 and 1874-75 (1876), p. 21-24.
- Ljungman, Axel Vilhelm:** The salt-water fisheries of Bohuslan and the scientific investigations of the salt-water fisheries. Report, 1878 (1880), p. 143-220. F16-157
- The great Bohuslan herring-fisheries. Report, 1878 (1880), p. 221-239. F16-158
- Contributions toward solving the question of the secular periodicity of the great herring fisheries. Report, 1879 (1882), p. 497-503. F17-6
- The Bohuslan sea fisheries and their future. Report, 1880 (1883), p. 89-98. F16-290
- What should be done by the government with regard to the great Bohuslan herring fisheries. A memorial addressed to the Council of state and the head of the Royal civil department of Sweden. Report, 1880 (1883), p. 99-126. F16-291
- Sweden at the great International fishery exposition at London, 1883. Bulletin, 1883 (1883), vol. III, p. 231-239. F18-128
- The great herring fisheries considered from an economical point of view. Report, 1883 (1885), p. 341-357. F17-30
- Special results of the investigations relating to the herring and herring fisheries on the west coast of Sweden made during the years 1873-1883. Report, 1883 (1885), p. 729-745. F17-34
- The future of the herring fisheries on the coast of Bohuslan. Report, 1884 (1886), p. 399-409. F17-132
- Lundberg, Rudolph:** The fisheries of Sweden. Report, 1884 (1886), p. 363-398. F17-131
- Malmgren, Anders Johan:** The injurious effects of rafting on the lake and river fisheries of Sweden. Bulletin, 1885 (1885), vol. V, p. 264-266. F18-430
- Widegren, Hjalmar:** On the herring and its preparation as an article of trade. Report, 1873-74 and 1874-75 (1876), p. 183-193. F16-11
- Short introduction to the proper care and management of the Baltic fishery. Report, 1878 (1880), p. 117-141. F16-156
- Yhlen, Gerhard von:** Report of the sea-fisheries of the Län of Göteborg and Bohus in the year 1877. Report, 1877 (1879), p. 741-750. F16-114

ASIA.

CHINA.

- Yen, Wei-Ching W.:** The fisheries of China. Bulletin, 1908 (1910), vol. XXVIII, p. 367-373. Doc. 664 issued Feb., 1910. 10-35156

INDIA.

- Day, Francis:** The fisheries of India. Report, 1883 (1885), p. 383-413. F17-32
- Mattson, H.:** [Fisheries of British India in 1882.] Report, 1883 (1885), p. 1188.

JAPAN.

- Baldwin, Charles H.:** Notes on the fish and fisheries of Japan. Bulletin, 1884 (1884), vol. IV, p. 352. F18-330
- Ito, K.:** [Fisheries of northern Japan.] Bulletin, 1893 (1894), vol. XIII, p. 435-438.
- Fishery industries of the island of Hokkaido, Japan. Bulletin, 1886 (1887), vol. VI, p. 342-345. incl. tables. F18-607
- Japan. Bureau of Agriculture:** The fisheries of Japan. Bulletin, 1893 (1894), vol. XIII, p. 419-438. Doc. 277 issued Nov. 15, 1894. F12-183
- Kitahara, T.:** The fisheries of Japan considered from a geographical standpoint. Bulletin, 1908 (1910), vol. XXVIII, p. 375-379. Doc. 665 issued Feb., 1910. 10-35155
- Mitsukuri, Kakichi:** The cultivation of marine and fresh-water animals in Japan. Bulletin, 1904 (1905), vol. XXIV, p. 257-289, illus., XI, pl. Doc. 573 issued June 17, 1905. F12-10

Smith, Hugh McCormick: Note regarding the promotion of fishery trade between the United States and Japan. Report, 1904 (1905), p. 239-243. *Doc. 576 issued July 17, 1900.* F10-5

SIBERIA.

Caldwell, John K.: Fishing in the Priamus district of Siberia. Appendix VI, Report, 1916 (1917), 31 p. *Doc. 844 issued June 2, 1917.* F17-239

SYRIA.

[The fisheries of Syria.] Bulletin, 1884 (1884), vol. IV, p. 456.

Robeson, John S.: [Fisheries of Syria in 1882.] Report, 1883 (1885), p. 1199.

AFRICA.

ALGERIA.

France, Minister of Marine and the Colonies: [Sea fisheries of France and Algeria in 1885.] Bulletin, 1887 (1889), vol. VII, p. 51-55.

Peixotto, Benjamin F.: The sea fisheries of France and Algiers. Bulletin, 1884 (1884), vol. IV, p. 417-419. F13-117

CAPE COLONY.

Siler, James W.: [Fisheries of Cape Colony.] Report, 1883 (1885), p. 1188.

OCEANICA.

AUSTRALASIA.

Spencer, O. M.: [The fisheries of Australasia in 1882.] Report, 1883 (1885), p. 1186-1188.

HAWAIIAN ISLANDS.

Alexander, Alvin B.: [Fisheries of the Hawaiian Islands.] Report, 1904 (1905), p. 135-136.

Cobb, John Nathan: The commercial fisheries of the Hawaiian Islands in 1903. Appendix, Report, 1904 (1905), p. 433-512. *Doc. 590 issued Dec. 29, 1905.* F10-12

— The commercial fisheries of the Hawaiian Islands. Bulletin, 1903 (1905), vol. XXIII, pt. III, p. 717-765, illus., pl. 102-106. *Doc. 577 issued Aug. 5, 1905.* F11-389

Jordan, David Starr, and Barton Warren Evermann: The fishes and fisheries of the Hawaiian Islands. A preliminary report. Commercial fisheries of the Hawaiian Islands, by John N. Cobb. Report, 1901 (1902), p. 353-499, pl. 21-27. *Doc. 504 issued Oct. 23, 1902.* F11-27

NEW ZEALAND.

Hector, James: The fisheries of New Zealand. Bulletin, 1884 (1884), vol. IV, p. 53-55. F18-216

OCEANS.

ARCTIC OCEAN.

Schultz, Alexander: Account of the fisheries and seal-hunting in the White Sea, Arctic Ocean, and the Caspian Sea. Report, 1873-74 and 1874-75 (1876), p. 35-96. F16-6

ATLANTIC OCEAN.

Alexander, Alvin Burton; Henry Frank Moore; and William Converse Kendall: Otter-trawl fishery. (Fishing banks of western North Atlantic; p. 22-24.) Appendix VI, Report, 1914 (1915), 97 p., illus., fold. chart, fold. pl. *Doc. 816 issued Apr. 17, 1915.* F15-40

Smith, Hugh McCormick: [The South Atlantic fisheries.] Report, 1889-1891 (1893), p. 177-179.

INDIAN OCEAN.

Endicott, Charles: A good fishing ground in the south Indian Ocean. Bulletin, 1886 (1887), vol. VI, p. 80. F18-539

PACIFIC OCEAN.

- Tanner, Zera Luther:** Report on the investigations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1889. Report, 1888-89 (1892), p. 395-512. *Doc. 180 issued June 25, 1892.* F12-222

SEAS.

GENERAL.

- Scherzer, Karl von:** The cultivation of the sea. Bulletin, 1884 (1884), vol. IV, p. 348-350. F18-328

BALTIC SEA.

- Hinkelmann:** Injuries to the fisheries in the Baltic by seals. Bulletin, 1887 (1889), vol. VII, p. 81-83. F18-643
- Prussia, Kommission zur Wissenschaftlichen Untersuchung der Deutschen Meere in Kiel:** Popular extracts from the investigations of the commission for scientific examination of the German seas. [By H. A. Meyer, K. Mobius, G. Karsten, V. Hensen.] Report, 1879 (1882), 33 p. F11-214
- Widegren, Hjalmar:** Short introduction to the proper care and management of the Baltic fishery. Report, 1878 (1880), p. 117-141. F16-156

BERING SEA.

- Tanner, Zera Luther:** Report upon the investigations of the U. S. Fish commission steamer *Albatross* from July 1, 1889, to June 30, 1891. Report, 1889-1891 (1893), p. 207-342 incl. tables, pl. *Doc. 216 issued Oct. 26. 1893.* F14-133

CASPIAN SEA.

- Schultz, Alexander:** Account of the fisheries and seal-hunting in the White Sea, the Arctic Ocean, and the Caspian Sea. Report, 1873-74 and 1874-75 (1876), p. 35-96. F16-6

NORTH SEA.

- Alexander, Alvin Burton; Henry Frank Moore; and William Converse Kendall:** Otter-trawl fishery. (Fisheries of the North Sea: p. 60-69.) Appendix VI, Report, 1914 (1915), 97 p., illus., fold. charts, fold. pls. *Doc. 816 issued Apr. 17, 1915.* F15-40
- Prussia, Kommission zur Wissenschaftlichen Untersuchung der Deutschen Meere in Kiel:** Popular extracts from the investigations of the commission for scientific examination of the German seas. [By H. A. Meyer, K. Mobius, G. Karsten.] Report, 1879 (1882), 33 p. F11-214

SOUTH SEA.

- Moore, Henry Frank:** [The *Albatross* South Sea expedition. (Fisheries: p. 150-151.)] Report, 1900 (1901), p. 137-161.

WHITE SEA.

- Alexander, Alvin Burton; Henry Frank Moore; and William Converse Kendall:** Otter-trawl fishery. (White Sea fishery: p. 72-74.) Appendix VI, Report, 1914 (1915), 97 p. *Doc. 816 issued Apr. 17, 1915.* F15-40
- Schultz, Alexander:** Account of the fisheries and seal-hunting in the White Sea, the Arctic Ocean, and the Caspian Sea. Report, 1873-74 and 1874-75 (1876), p. 35-96. F16-6

LAWS AND LEGISLATION.

UNITED STATES.

GENERAL.

- Baird, Spencer Fullerton:** [Measures suggested to prevent the destruction of spawning fish.] Report, 1871 and 1872 (1873), p. XXXIII-XXXVI.
- [Legislation. Three-mile limit. Season for fishing. International agreements. Federal control of streams. Fishing restrictions, etc.] Report, 1886 (1889), p. 151-160.

- Dennis, Oregon Milton:** Some reasons for failure of fish protective legislation, and some suggested remedies. Bulletin, 1908 (1910), vol. XXVII, p. 187-192. *Doc. 650 issued Jan. 1910.* 10-35099
- Landmark, Anthon, i. e. Even Anthon Thomas:** Is sawdust injurious to the fisheries? Report, 1879 (1882), p. 625-632. F17-10
- Lyman, Theodore:** Laws of inland waters. Bulletin, 1885 (1885), vol. V, p. 271-272. F18-433
- McDonald, Marshall:** Report upon the protection which should be given by law to the fisheries of the Atlantic coast. Report, 1884 (1886), p. 225-232. F17-125
- Meehan, W. E.:** The relations between State fish commissions and commercial fishermen. Bulletin, 1897 (1898), vol. XVII, p. 345-348. *Doc. 392 issued Aug. 8, 1898.* F12-110
- Perce, H. Wheeler:** National aspects of angling and the protection of game fishes. Bulletin, 1908 (1910), vol. XXVII, p. 193-198. *Doc. 651 issued Jan. 31, 1910.* 10-35136
- Snell, Merwin P.:** An important fish-way cause. Bulletin, 1883 (1883), vol. III, p. 266-268. F12-396
- Southwick, J. M. K.:** Our ocean fishes and the effect of the legislation upon the fisheries. Bulletin, 1893 (1894), vol. XIII, p. 39-45. *Doc. 241 issued June 9, 1894.* F12-183
- U. S. Commissioner of Fisheries:** [Jurisdiction of the United States and the States over fishing grounds.] Report, 1877 (1879), p. 26-29.
- [Legislation in regard to fisheries.] Report, 1879 (1882), p. XXII.
- [Increasing the supply of food-fishes by protective measures enforced when necessary by law.] Report, 1882 (1884), p. LV-LVIII.
- [Fishery legislation in the Fifty-ninth Congress.] Report, 1906 (1907), p. 21-23.
- U. S. Congress, House:** [Bill to protect the freedom of commercial intercourse.] Bulletin, 1886 (1887), vol. VI, p. 142.
- An Act for securing statistics of the extent and value of the vessel fisheries of the United States. Bulletin, 1887 (1889), vol. VII, p. 25-27. F18-642
- [A bill to regulate the fisheries (H. R. 5030).] Report, 1892 (1894), p. CLXXXVI-CLXXXVII.
- U. S. Congress, House, Committee on the Judiciary:** Fishing in the navigable waters of the United States. Bulletin, 1886 (1887), vol. VI, p. 117-119. F18-555

ALASKA.

- Bower, Ward T.:** Alaska fisheries and fur industries. (Laws and regulations.) Appendix VII, Report, 1918 (1920), p. 16-20; Appendix IX, Report, 1919 (1921), p. 15-23. F12-388
- Bower, Ward Taft, and Henry D. Aller:** Alaska fisheries and fur industries. (Laws and regulations.) Appendix IX, Report, 1914 (1915), p. 10-13; Appendix III, Report, 1915 (1917), p. 11-14; Appendix II, Report, 1916 (1917), p. 12-19; Appendix II, Report, 1917 (1919), p. 11-13. F12-388
- Bower, Ward T., and H. C. Fassett:** [Legislation: p. 37-53.] *In* Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914). F12-388
- Cobb, John Nathan, and Howard M. Kutchin:** The fisheries of Alaska in 1906. (New laws in force in 1907: p. 66-70.) Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263
- Evermann, Barton Warren:** Fishery and fur industries of Alaska in 1912. (Complaints and prosecutions: p. 8-9.) Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.* F12-388
- Evermann, Barton Warren, and F. M. Chamberlain:** [Complaints and prosecutions: p. 6-7.] *In* Alaska fisheries and fur industries in 1911, by B. W. Evermann. Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388
- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1907. (Laws and violations: p. 30-33.) Report and special papers, 1907 (1909), 77 p. *Doc. 632 issued Apr. 16, 1908.* 7-35263

DISTRICT OF COLUMBIA.

- An act to protect the fish in the Potomac River in the District of Columbia, and to provide a spawning ground for shad and herring in the said Potomac River. Bulletin, 1885 (1885), vol. V, p. 180. F18-399
- U. S. Commissioner of Fisheries:** [Protection of fish in the Potomac River.] Report, 1894 (1896), p. 19.

MARYLAND.

- Knight, William:** A bill proposed to the Maryland legislature at the session of 1876, and entitled "An act to regulate the catching and to provide for the preservation of fish in waters of the State and of the Potomac River." Bulletin, 1882 (1883), vol. II, p. 265-272. F18-101

MASSACHUSETTS.

- Atwood, Nathaniel E.:** Fisheries on the east coast of Massachusetts. Remarks of Mr. Atwood, of the cape district, in relation to the petition to prohibit net and seine fisheries. Report, 1871 and 1872 (1873), p. 117-124. F16-54
- Massachusetts Laws, Statutes, etc.:** Draught of law proposed for the consideration of the enactment by the legislatures of Massachusetts, Rhode Island, and Connecticut. A bill to regulate the use of stationary apparatus in the capture of fish. Report, 1871 and 1872 (1873), p. 132-134. F16-56
- [Petition to restrict fishing in Massachusetts.] Bulletin, 1886 (1887), vol. VI, p. 406-407.
- [Legislation for the protection of mackerel.] *Quoted by Goode in* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. II, p. 301-304.
- U. S. Bureau of Fisheries:** Report of conference of United States commissioner with commissioners of Rhode Island and Massachusetts. Report of conference held at Boston, October 5, 1871, with fishery commissioners of Massachusetts and Rhode Island. Report, 1871 and 1872 (1873), p. 125-131. F16-55

MICHIGAN.

- Lafin & co.:** Need of a national law to regulate the size of mesh of both pound and gill nets on the Great Lakes. Bulletin, 1884 (1884), vol. IV, p. 223-224. F18-292
- U. S. Bureau of Fisheries:** [Laws, correspondence, and judicial proceedings regarding fish-cultural work in Michigan.] Report, 1904 (1905), p. 9-13.

NEW JERSEY.

- Homergue, Louis C. d':** Brief of the objections made before Leon Abbott, Governor of New Jersey, to the "Act to prohibit fishing by steam vessels with shirred or purse seines in any of the waters within the jurisdiction of the State of New Jersey." Bulletin, 1884 (1884), vol. IV, p. 189-190. F18-278
- Miller, W. B.:** An act to prohibit fishing by steam vessels with shirred or purse seines in any of the waters within the jurisdiction of the State of New Jersey. Bulletin, 1884 (1884), vol. IV, p. 187-189. F18-277

PENNSYLVANIA.

- Rathbun, Richard:** [Effect of pollution on the fisheries of the Susquehanna River. Report, 1892 (1894), p. CXXXVI-CXXXVIII.]

RHODE ISLAND.

- Rhode Island, General Assembly:** Report of committee of Rhode Island legislature, made at Newport, June 15, 1870. (Signed Francis Brinley, Joseph Osborn, Joseph W. Sweet, Henry T. Grant, Jabez W. Mowry.) Report, 1871 and 1872 (1873), p. 104-111. F16-52
- Rhode Island, General Assembly, Senate Committee on Fisheries:** Pleadings before the Senate committee on fisheries of the Rhode Island legislature at its January session of 1872. Argument of J. Talbot Pitman in favor of a law prohibiting the use of traps and pounds in Rhode Island. Abstract of an address by Captain Nathaniel Atwood, in opposition to legislation. Before the Senate committee of Rhode Island legislature, January session, 1872. Report, 1871-72 (1873), p. 196-227. F16-61
- U. S. Bureau of Fisheries:** Special arguments in regard to regulating the sea fisheries by law. Argument of Samuel Powell, esq., delivered in the Rhode Island legislature. Argument of J. M. K. Southwick. The food fishes of the New England coast. By George H. Palmer. Report, 1871-72 (1873), p. 73-103. F16-51

WASHINGTON.

- Washington Legislature:** [An act regulating salmon fisheries of the waters of the Columbia River.] Report, 1877 (1879), p. 791-796.

Washington Territory, Legislature: [Developing the fisheries of Washington.] Bulletin, 1886 (1887), vol. VI, p. 132-133.

GREAT LAKES.

The Commercial, Port Huron, Mich.: [Regulating the Lake fisheries.] Bulletin 1886 (1887), vol. VI, p. 461-462.

Keyes, C. M.: The fishing industry of Lake Erie, past and present. Bulletin, 1893 (1894), vol. XIII, p. 349-352. *Doc. 271 issued June 26, 1894.* F12-183

McCallum, G. A.: The assimilation of the fishery laws of the Great Lakes. Bulletin, 1893 (1894), vol. XIII, p. 17-20. *Doc. 238 issued June 9, 1894.* F12-183

Milner, James W.: [Need of legislation for the protection of the food fishes of the Great Lakes.] Report, 1872 and 1873 (1874), p. 20-24.

MISSISSIPPI AND OHIO RIVERS.

Stringham, Emerson: Fish laws of Mississippi River States; a digest of statutes relating to the protection of fish and miscellaneous aquatic animals bordering on the Mississippi River. Appendix IV, Report, 1916 (1917), 16 p. *Doc. 840 issued Feb. 1, 1917.* F17-44

—Fish laws of States bordering on Mississippi and Ohio rivers. A digest of statutes relating to the protection of fishes and other cold-blooded aquatic animals. Appendix II, Report, 1918 (1920), 21 p. *Doc. 866 issued July 8, 1919.* F19-31

EUROPE.

AUSTRIA.

Peyrer, Karl: Fisheries and fishery laws in Austria and of the world in general. Report, 1873-74 and 1874-75 (1876), p. 570-679. F16-31

BELGIUM.

Selys-Longchamps, Edmond, i. e. Michel Edmond Selys de: Repopulation of the water courses in Belgium. Report, 1881 (1884), p. 815-824. F16-343

ICELAND.

Thorarinsson, Bened S.: [Protecting the fisheries.] Bulletin, 1887 (1889), vol. VII, p. 124.

ITALY.

Worthington, John: The fisheries of Malta. Bulletin, 1885 (1885), vol. V, p. 457-462. F18-509

RUSSIA.

Russia: [Fishery regulations in Manchooria.] Bulletin, 1886 (1887), vol. VI, p. 451.

SCOTLAND.

Scotland, Fishery Board: [Extracts from the first annual report of the fishery board of Scotland for the year ending December 31, 1882.] (The effect of fixed engines on the salmon fisheries. A prize essay on "Salmon legislation in Scotland," by J. M. Leith: p. 230-234.) Report, 1882 (1884), p. 229-236.

INDIA.

Day, Francis: [Legislation on the fisheries of India.] Report, 1883 (1885), p. 392-401.

HAWAIIAN ISLANDS.

Cobb, John Nathan: [Fishery laws of the Hawaiian Islands.] Report, 1904 (1905), p. 435-438.

Jordan, David Starr: [Laws relating to the fishes and fisheries of the Hawaiian Islands.] Report, 1901 (1902), p. 359-373.

INTERNATIONAL.

American-Canadian Boundary Commission: Recommendations for the preservation of the fisheries in contiguous waters of the United States and Canada. Report, 1897 (1898), p. CV-CXVII.

- Fryer, Charles Edward:** International regulations of the fisheries on the high seas. Bulletin, 1908 (1910), vol. XXVIII, p. 91-102. *Doc. 647 issued June 1910.* 10-35097
- Great Britain, Laws, Statutes, etc., 1837-1901 (Victoria):** The British sea fisheries act, 1883. (An act to carry into effect an international convention concerning the fisheries in the North Sea, and to amend the laws relating to British sea fisheries.) Report, 1883 (1885), p. 259-278. F17-24
- James, Bushrod W.:** International protection for the denizens of the sea and waterways. Bulletin, 1897 (1898), vol. XVII, p. 257-263. *Doc. 378 issued Aug. 8, 1898.* F12-110
- Jordan, David Starr:** Work of the International fisheries commission of Great Britain and the United States. Bulletin, 1908 (1910), vol. XXVIII, p. 181-186. *Doc. 649 issued January, 1910.* 10-35100
- Olsen, O. T.:** International regulations of the fisheries on the high seas. Bulletin, 1908 (1910), vol. XXVII, p. 77-90. *Doc. 646 issued 1910.* 10-35098
- Resolutions** asking for the abrogation of the fishery clause of the Washington treaty, passed at a convention of New England fishermen, which met at Gloucester, December 27, 1884. Bulletin, 1885 (1885), vol. V, p. 447-448. F18-504
- Stevenson, Charles Hugh:** International regulations of the fisheries on the high seas. Bulletin, 1908 (1910), vol. XXVIII, p. 103-180 incl. 3 maps. *Doc. 648 issued January, 1910.* 10-35122

SPECIES.

BLUEFISH.

- Dickinson, Fred. W.:** Petition to prohibit the seining of bluefish. Bulletin, 1885 (1885), vol. V, p. 425-426. F18-492,

COD.

- A petition** [for the passage of a law prohibiting the catching of cod by trawl line] to the Fish commission of the United States, signed by the fishermen of Block Island, June 12, 1877. Report, 1878 (1880), p. 35-39. F16-152

HERRING.

- Earll, R. E.:** Proposed limitation of the herring fishery in Maine, and its effects upon bait and canning interests. Bulletin, 1883 (1883), vol. III, p. 445-446. F18-177

MACKEREL.

- Goode, George Brown:** [Legislation for the protection of mackerel.] Report, 1881 (1884), p. 209-213.
- Small, E. E.:** [Petition for protective laws on mackerel.] Bulletin, 1885 (1885), vol. V, p. 350-351.
- U. S. Congress, House:** An act relating to the importing and landing of mackerel caught during the spawning season. Bulletin, 1886 (1887), vol. VI, p. 216-217. F18-580

MENHADEN.

- Greer, Rob Leon:** The menhaden industry of the Atlantic coast. (Laws governing menhaden fishing: p. 27.) Appendix III, Report 1914 (1915), 27 p., VII pl. *Doc. 811 issued Apr. 7, 1915.* F15-39
- The menhaden industry of the Atlantic coast, 30 p., VII pl. *Doc. 811 re-printed with additions Oct. 18, 1917.* F17-263
- Homergue, Louis C. d':** Reasons for restricting the use of steerers and seines in menhaden industry. Bulletin, 1883 (1883), vol. III, p. 456-458. F18-185
- Wharton, Joseph:** Why menhaden seining should not be prohibited within two miles of the shore. Bulletin, 1883 (1883), vol. III, p. 462. F18-187

SALMON.

- California State Fisheries Commissioners:** [Closed season for salmon.] Report, 1878 (1880), p. 892-893.
- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. (Fishery regulations: p. 37-45.) Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393
- Dowell, B. F.:** [Protection of salmon in Oregon.] Bulletin, 1886 (1887), vol. VI, p. 452.
- McDonald, Marshall:** [Protective regulation of the salmon fisheries of Alaska.] Bulletin, 1892 (1894), vol. XII, p. 13-20.

- McDonald, Marseall:** [Recommendation for legislation for protection of salmon fisheries.] Report, 1894 (1896), p. 101.
- Moser, Jefferson F.:** [Alaska salmon law.] Bulletin, 1898 (1899), vol. XVIII, p. 38-42.
- Rathbun, Richard:** [Regulations affecting the salmon fishery.] Report, 1899 (1900), p. 325-327.
- U. S. Congress, House:** [Resolution to investigate the Oregon salmon fishery.] Bulletin, 1886 (1887), vol. VI, 410-411.

SARDINE.

- Hall, Ansley:** [Legislation for regulating the sardine industry.] Report, 1896 (1898), p. 480-482.

STURGEON.

- New Jersey, General Assembly, Senate:** [A law protecting young sturgeon.] Report, 1899 (1900), p. 373.

MODUS VIVENDI.

- Smith, Hugh McCormick:** [Modus vivendi.] Report, 1889-1891 (1893), p. 201.

PATENTS.

- Dyrenforth, Robert G.:** List of patents issued in the United States, Great Britain, and Canada, up to the year 1878, relating to fish and the methods, products, and applications of the fisheries. Report, 1878 (1880), p. 3-16. F16-150
- Abstract of patents issued in Great Britain up to the year 1878, and having reference to the pursuit, capture, and utilization of the products of the fisheries. Report, 1878 (1880), p. 17-33, pls. F16-151
- List of patents issued in the United States during the years 1879, 1880, and 1881 relating to fish and the methods, products, and applications of the fisheries. Report, 1880 (1883), p. 1047-1060; 1881 (1884), p. 87-88. F16-280
- Patents issued by the United States during the years 1882, 1883, and 1884 relating to fish and the methods, products, and applications of the fisheries. Report, 1885 (1887), p. 975-1099.
- U. S. Bureau of Fisheries:** List of patents granted by the United States to the end of 1872 for inventions connected with the capture, utilization, or cultivation of fishes and marine invertebrates. Report, 1871-72 (1873), p. 275-280. F16-62
- [McDonald patents.] Report, 1903 (1905), p. 24.

TREATIES.

- Baird, Spencer Fullerton:** [Treaty of Washington. Testimony given before the Halifax commission, October, 1877.] Report, 1886 (1889), p. 171-213.
- Peyrer, Karl:** [Text of treaty between Baden and Switzerland, relating to fisheries in the Rhine.] Report, 1873-74 and 1874-75 (1876), p. 671-674.
- Resolutions** asking for the abrogation of the fishery clause of the Washington treaty, passed at a convention of New England fishermen which met at Gloucester, December 27, 1884. Bulletin, 1885 (1885), vol. V, p. 447-448.
- Smith, H. M.:** [Effect of abrogation of treaty of Washington on the herring fisheries.] Report, 1889-1891 (1893) p. 201-202.
- [**Termination** of the treaty of Washington in 1885.] Bulletin, 1884 (1884), vol. IV, p. 317.
- U. S. Commissioner of Fisheries:** [Halifax convention. Treaty of Washington.] Report, 1877 (1879), p. 6-13.
- [Treaty relations with Great Britain.] Report, 1885 (1887), p. LXX-LXXII.
- [Fishery relations of the United States with Canada.] Report, 1886 (1889), p. XXI-XXVII.
- [North Atlantic fisheries dispute and arbitration.] Report, 1911 (1913), p. 52-59.

FISHERY METHODS.

UNITED STATES.

APPARATUS AND APPLIANCES.

- Alexander, Alvin Burton:** [Hook and line for Pacific salmon.] Report, 1902 (1904), p. 154-155.

- Baird, Spencer Fullerton:** Description of apparatus used in capturing fish on the sea-coast and lakes of the United States. Report, 1871 and 1872 (1873), p. 258-274, illus., pl. XXXIX. F15-101
- Beckley, Emma Metcalf:** Hawaiian fishing implements and methods of fishing. Bulletin, 1886 (1887), vol. VI, p. 245-256. F18-585
- Christensen, R.:** Notes on the history of the fish-hook. Bulletin, 1884 (1884), vol. IV, p. 282-286. F13-105
- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. (Apparatus and methods of fishing: p. 23-34.) Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393
- [Apparatus and methods of fishing in the Hawaiian Islands.] Report, 1901 (1902), p. 396-423.
- [Apparatus and methods of fishing in the Hawaiian Islands.] Bulletin, 1903 (1905), vol. XXIII, pt. II, p. 721-743.
- Collins, Joseph William:** [Apparatus for fishing, collecting, etc., on the schooner *Grampus*.] Report, 1887 (1891), p. 470-476.
- [Apparatus of capture and methods of fishery on the Pacific coast.] Report, 1888-89 (1892), p. 46-47, 58-60, 64-65, 103-105, 129-132, 147-149, 165-166, 172-173, 209-220, 241, 254-260.
- Earll, R. Edward:** [Methods of capture used by cod-fishermen of Cape Anne.] Report, 1878 (1880), p. 693-696.
- Goode, George Brown, and J. W. Collins:** [Apparatus and methods of the haddock fishery.] Bulletin, 1881 (1882), vol. I, p. 228-233.
- Harrell, J. Dock:** Trapping gaspereau in Tangipahoa River. Bulletin, 1884 (1884), vol. IV, p. 448. F18-361
- Jordan, David Starr:** [Apparatus used in the fisheries of the Hawaiian Islands.] Report, 1901 (1902), p. 378.
- Kinney, Aug. C.:** Proposed removal of fish-traps from Columbia River. Bulletin, 1885 (1885), vol. V, p. 328. F18-467
- Martin, Stephen J.:** Coal ashes as a means of raising mackerel in purse seines. Bulletin, 1881 (1882), vol. I, p. 65. F18-23
- Method of using Willard's patent pocket for mackerel. Bulletin, 1881 (1882), vol. I, p. 65-66. F18-24
- Merchant, George:** The incipency of night-seining for mackerel. Bulletin, 1884 (1884) vol. IV, p. 142. F18-251
- Rathbun, Richard:** [Methods of fishing for salmon in Washington.] Report, 1899 (1900), p. 295-316.
- Scudder, Newton Pratt:** [Apparatus and methods used in the halibut fishery in Davis Strait.] Report, 1880 (1883), p. 209-213.
- Smith, Hugh McCormick:** [Report on the line fisheries of the Middle Atlantic States.] Bulletin, 1894 (1895), vol. XIV, p. 461-462.
- Stone, Livingston:** [Methods of fishing for salmon in the Columbia River.] Report, 1875-76 (1878), p. 820-821.
- Tanner, Zera Luther:** The use of the electric light in fishing. Bulletin, 1885 (1885) vol. V, p. 464. F18-511
- Use of light in sea-fishing.** Bulletin, 1884 (1884), vol. IV, p. 387-389. F18-344
- Van Hook, J. C.:** [Methods of fishing for Barracuda on the Pacific coast.] *Quoted, by Collins.* Report, 1888-89 (1892), p. 30-31.
- Widegren, Hjalmar:** [Salmon-fishing with lines.] Report, 1878 (1880), p. 140-141.
- Wilcox, William A.:** [Apparatus and methods of Porto Rican fishermen.] Bulletin, 1900 (1902), vol. XX, pt. I, p. 30-32, illus. F12-134

FISHING VESSELS.

- Baird, Spencer Fullerton:** [The fishery marine.] Report, 1886 (1889), p. 103-108.
- Cobb, John Nathan:** [Vessels used in the sturgeon fishery of Delaware River and Bay.] Report, 1899 (1900), p. 374-375.
- [Hawaiian fishing boats.] Bulletin, 1903 (1905), vol. XXIII, pt. II, p. 719-725.
- Collins, Joseph William:** [The proper model for fishing vessels.] Bulletin, 1885, (1885), vol. V, p. 69-70.
- [Vessels and smacks used in the Gulf fisheries.] Report, 1885 (1887), p. 283-287, 250-254, 260-262, 264-267.
- [Vessels and boats used in the fisheries of the Great Lakes.] Report, 1887 (1891), p. 19-30.
- Report on the construction and equipment of the schooner *Grampus*. Report, 1887 (1891), p. 437-490, illus., XVIII pl. *Doc. 171 issued Aug. 24, 1891.* F11-333
- The fishing vessels and boats of the Pacific coast. Bulletin, 1890 (1892), vol. X, p. 13-48, illus. pl. X-XVII. *Doc. 187 issued Feb. 15, 1892.* F12-134

- Goode, George Brown:** [Manner of fitting a vessel for swordfishing.] Report, 1880 (1883), p. 350.
- Goode, George Brown, and Joseph William Collins:** [The mackerel fleet.] Bulletin 1881 (1884), p. 139-142.
- [Type of vessel composing the winter haddock fleet.] Bulletin, 1881 (1882), vol. I, p. 227-228.
- Smiley, Charles W.:** The proposed use of steamers in the mackerel fishery. Bulletin, 1882 (1883), vol. II, p. 155-158. F12-354
- Tonnage of vessels of the United States employed in the whale, cod, and mackerel fisheries from 1860 to 1882, inclusive. Bulletin 1883 (1883), vol. III, p. 273. F18-133
- Smith, Hugh McCormick:** [Improvements in fishing vessels.] Report, 1892 (1894), p. CLXXX.
- Stevenson, Charles Hugh:** [Vessels and boats used in the coast fisheries of Texas.] Report, 1889-1891 (1893), p. 376.
- Swan, James G.:** [Schooner *Spencer F. Baird*.] Bulletin, 1885 (1885), vol. V, p. 342.
- U. S. Bureau of Fisheries:** Statistics respecting certain features of the vessel fisheries of the United States. Bulletin 1887 (1889), vol. VII, p. 447-464. F18-681.

NETS, DESCRIPTION OF.

- Augur, C. H.:** Fish nets: some account of their construction and the application of of the various forms in American fisheries. Bulletin, 1893 (1894), vol. XIII, p. 381-388. Doc. 274 issued June 16, 1894. F12-183
- Dunlap, M. E.:** Pound and net fishing at Erie, Penn. Bulletin, 1885 (1885), vol. V, p. 319-320. F18-463
- Prices of small nets.** Bulletin 1884 (1884), vol. IV, p. 359.
- Stevenson, Charles Hugh:** [Seines and nets used in the coast fisheries of Texas.] Report for 1889-1891 (1893), p. 377-382.

NETS, GILL.

- Goode, George Brown, and Joseph William Collins:** [The mackerel gill-net fishery.] Report, 1881 (1884), p. 197-202.
- Martin, S. J.:** Some of the early results of the introduction of cod gill-nets at Gloucester, Massachusetts, 1880-81. Bulletin, 1883 (1883), vol. III, p. 153-158. F20-137
- Notes on the cod gill-net fisheries at Gloucester, Massachusetts, 1882-83 and 1883-84. Bulletin, 1883 (1883), vol. III, p. 159-160; 1884 (1884), vol. IV, p. 129-134. F20-137
- Fitting out with cod gill-nets. Bulletin, 1883 (1883), vol. III, p. 424. F20-135
- Smith, Hugh McCormick:** [A statistical report on the seine gill-net, fyke-net, and pot fisheries of the Middle Atlantic States.] Bulletin, 1894 (1895), vol. XIV, p. 455-460.
- U. S. Commissioner of Fisheries:** [Introduction of cod gill-nets.] Report, 1881 (1884), p. XXXIV-XXXVIII.
- [Cod gill-nets.] Report, 1883 (1885), p. LXIX-LXXI.
- [Introduction of cod gill-nets on the Pacific coast.] Report, 1884 (1886), p. XLIV-XLV.
- [Use of the cod gill-net.] Report, 1885 (1887), p. LXII-LXIII.
- [Gill-nets in the mackerel fishery.] Report, 1905 (1906), p. 32-33.

NETS, FYKE.

- Smith, Hugh McCormick:** The fyke-nets and fyke-net fisheries of the United States, with notes on the fyke-nets of other countries. Bulletin, 1892 (1894), p. 299-355, Pl. LXXII-XCI. Doc. 226 issued Nov. 9, 1895. F12-164

NETS, PURSE.

- Deblois, E. T.:** [Invention of the purse seine.] Bulletin, 1881 (1882), vol. I, p. 47.
- Goode, George Brown, and Joseph William Collins:** [The purse-seine in the mackerel fishery.] Report, 1881 (1884), p. 138-171.
- U. S. Commissioner of Fisheries:** [Purse-seine in the Bank cod fishery.] Report, 1905 (1907), p. 30.
- Wallem, Fredrik Meltzer:** [Mackerel-catching with the purse-seine.] Report 1878 (1880), p. 108-113.

NETS, PRESERVATION OF.

- Header, William:** Waterproofing for herring-nets. Bulletin, 1884 (1884), vol. IV, p. 143. F18-253
- The Preservation of nets.** Bulletin, 1886 (1887), vol. VI, p. 97-104. F18-548
- Storer, Francis Humphreys:** Memoranda of methods employed by fishermen for barking and in other ways preserving nets and sails. Report, 1882 (1884), p. 295-308. F16-331
- Taylor, Harden F.:** Preservation of fish nets. (Citation of literature: p. 34.) Appendix IV, Report, 1920 (192-), 35 p., illus. *Doc. 898 issued Feb. 2, 1921.* F21-5
- U. S. Commissioner of Fisheries:** [Best methods of preserving nets.] Report, 1882 (1884), p. XX.

TRAWLS AND TRAWLING.

- Alexander, Alvin Burton; H. F. Moore; and W. C. Kendall:** Otter-trawl fishery. Appendix VI, Report, 1914 (1915), 97 p., illus., fold. chart, fold. pl. (First printed as House doc. 1519, 63d Cong., 3d sess.) *Doc. 816 issued Apr. 17, 1915.* F15-40
- Baird, Spencer Fullerton:** [Description of the beam-trawl.] Report, 1886 (1889), p. 121-123.
- Smith, Hugh McCormick:** [Beam-trawl fishery.] Report, 1892 (1894), p. CLXXXI-CLXXXII.
- U. S. Bureau of Fisheries:** [Otter-trawl fishery of Boston.] Report, 1913 (1914), p. 59-60.
- Wilcox, William A.:** [Use of the beam-trawl in the fisheries of the Pacific coast.] Report, 1893 (1895), p. 214-215.

EUROPE.

APPARATUS AND APPLIANCES.

- Eels and eelpots in Norway.** Bulletin, 1885 (1885), vol. V, p. 306. F18-451
- Johnston, Joseph, & Sons:** Scotland fisheries and apparatus. Bulletin, 1883 (1883), vol. III, p. 466. F18-190
- Lehrs, George Lambert:** [Fishing in the Black Sea.] Bulletin, 1885 (1885), vol. V, p. 84-85.
- Leith, J. M.:** [Effects of fixed engines on salmon fisheries.] Report, 1882 (1884), p. 230-234.
- Ljungman, Axel Vilhelm:** [Fishing implements, the manner in which they are used.] Report, 1873-74 and 1874-75 (1876), p. 154-165.
- Lundberg, Rudolph:** Eel-fishing with so-called "hommer" (a species of fish-pot) on the Baltic coast of Sweden and in the Sound. Report, 1883 (1885), p. 415-430, pl., illus. F17-33

FISHING VESSELS.

- Anchor, Ernst:** The *Kurren* and *Keitel* (fishing vessels) of the Courland Haff. Bulletin, 1884 (1884), vol. IV, p. 167-168. F18-263
- Annaniassen, A.:** [Iceland fishing vessels.] Report, 1884 (1886), p. 321-322.
- Collins, J. W.:** Suggestions for the employment of improved types of vessels in the market fisheries, with notes on the British fishing steamers. Bulletin, 1888 (1890), vol. VIII, p. 175-192, pl. XVI-XXVII. *Doc. 137 issued Mar. 15, 1890.* F11-319

NETS, DESCRIPTION OF.

- Ljungman, Axel Vilhelm:** [Description of nets used in the herring fisheries on the coast of Bohuslan.] Report, 1884 (1886), p. 403-408.
- Lundberg, Rudolph:** [Methods employed in the fisheries of Sweden. Description of nets.] Report, 1884 (1886), p. 363-398.

NETS, GILL.

- Collins, Joseph William:** Gill-nets in the cod-fishery. (Description of the Norwegian cod-nets, with directions for their use, and a history of introduction into the United States.) Bulletin, 1881 (1882), vol. I, p. 1-7, pl. I-XII. *Doc. 37 issued June 30, 1881.* F12-219
- Correspondence relative to the procurement of certain fishery implements for the government of New South Wales. Bulletin, 1882 (1883), vol. II, p. 291-299. F18-104
- Gill-nets in the cod-fishery: a description of Norwegian cod-nets, etc., and a history of their use in the United States. Report, 1884 (1886), p. 265-288. F17-127

NETS, PURSE.

- Anderssen, Joakim:** [Use of the purse-seine in open sea.] Report, 1878 (1880), p. 60-61.
- Ljungman, Axel Vilhelm:** [Introduction of the purse-seine into Europe.] Report, 1884 (1886), p. 407-408.
- Martin, S. J.:** The American purse-seine successful in the herring fisheries of Sweden. Bulletin, 1883 (1884), vol. III, p. 161. F20-130

TRAWLS AND TRAWLING.

- Collins, Joseph William:** The beam-trawl fishery of Great Britain, with notes on beam-trawling in other European countries. Bulletin, 1887 (1889), p. 289-402, illus., XXIII pl. (partly fold.). *Doc. 132 issued Sept. 21, 1889.* F11-329

INDIA: APPARATUS AND APPLIANCES.

- Day, Francis:** [Apparatus and methods of fishery in India.] Report, 1883 (1885), p. 394-388.

SPECIAL FISHERIES.

UNITED STATES.

ALEWIFE.

General.

- Smith, Hugh McCormick:** [Shad and alewife fisheries.] Report, 1897 (1898), p. CXXV-CXXX.
- Notes on the extent and condition of the alewife fisheries of the United States in 1896. Report, 1898 (1899), p. 31-43. *Doc. 401 issued Mar. 22, 1899.* F11-113

Maine.

- Evermann, Barton Warren:** [Alewife fishery of the Penobscot River.] Report, 1903 (1905), p. 112.

New England.

- Smith, Hugh McCormick:** [The alewife fishery in New England.] Report, 1894 (1896), p. 125.

ATKAFISH: ALASKA.

- Collins, Joseph William:** [Atka fishery in the Aleutian Archipelago.] Report, 1888-89 (1892), p. 16-17.
- Turner, Lucien McShan:** [Atka fishery.] *Quoted by* Evermann and Goldsborough. Bulletin, 1906 (1907), vol. XXVI, p. 291-292.

BARRACUDA: CALIFORNIA.

- Eigenmann, Carl H.:** [The barracuda and the fishery for it.] *Quoted by* Collins. Report, 1888-89 (1892), p. 26-27.
- Van Hook, J. G.:** [Fishing for barracuda.] *Quoted by* Collins. Report, 1888-89 (1892), p. 30.

BASS.

General.

- Collins, J. W.:** [The rock and perch fishery.] *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. VII, p. 538-540.
- Page, William F.:** [Black basses.] Report, 1897 (1898), p. 164-165.
- [Striped bass (*Roccus lineatus*).] Bulletin, 1886 (1887), vol. VI, p. 137.
- Wilcox, William A.:** [Striped bass fisheries of the Pacific coast.] Report, 1893 (1895), p. 149-151.

California.

- [Striped bass in California.] Report, 1897 (1898), p. CXLI-CXLIII.

CARP.

General.

- Brouster, E. B.:** [How to catch carp.] Bulletin, 1886 (1887), vol. VI, p. 317.
- Canfield, Harry L.:** The capture and marketing of carp. Seasons and localities of capture. 7 p. *Economic Circular 40 issued Sept. 20, 1918.* F18-699

- Cole, Leon J.:** The German carp in the United States. Report, 1904 (1905), p. 523-641, illus., pls. *Doc. 592 issued Dec. 30, 1905.* F12-327
- Ebert, Amos:** [Catching carp with a hook.] Bulletin, 1886 (1887), vol. VI, p. 135.
- Martin, Robert A.:** How to catch carp. Bulletin, 1885 (1885), vol. V, p. 449-450. F18-506
- Quattlebaum, Paul:** Method of catching carp with a hook. Bulletin, 1884 (1884), vol. IV, p. 380. F18-338
- Shinkle, A.:** [Game qualities of the carp.] Bulletin, 1886 (1887), vol. VI, p. 317.
- Smiley, Charles Wesley:** Several opinions upon how to catch carp. Bulletin, 1884 (1884), vol. IV, p. 268-272. F18-309
- Tcherkassoff, P.:** [Carp fishing.] Bulletin, 1885 (1885), vol. V, p. 106-107.
- Townsend, Charles Haskins:** [Note on carp fishery.] Report, 1900 (1901), p. 178.
- [Carp fisheries.] Report, 1902 (1904), p. 153.

Illinois.

- Chicago Tribune:** [Carp in Illinois.] Bulletin, 1886 (1887), vol. VI, p. 401.

Ohio.

- Mulertt, Hugo:** [Carp in the Ohio River.] Bulletin, 1886 (1887), vol. VI, p. 401.

Virginia.

- Duke, R. T. W.:** [Carp in the Rivanna River.] Bulletin, 1886 (1887), vol. VI, p. 134.
- Lynchburg Advance:** [Carp in the Rivanna River.] Bulletin, 1886 (1887), vol. VI, p. 134.
- Page, W. F.:** [Carp in the James River.] Bulletin, 1886 (1887), vol. VI, p. 316.

Lake Erie.

- Townsend, Charles Haskins:** [German carp in Lake Erie.] Report, 1901 (1902), p. 150-151.

CATFISH.

General.

- Avery, F. W.:** [A large catfish.] Bulletin, 1886 (1887), vol. VI, p. 453.
- Hiester, Charles E.:** Answers to questions relative to catfish. Bulletin, 1882 (1883), vol. II, p. 76-79. F18-76
- Kendall, William Converse:** American catfishes: habits, culture, and commercial importance. Report and special papers, 1908 (1910), 39 p., X pl. *Doc. 733 issued Aug. 23, 1910.* 10-35947

California.

- Utter, William:** [Catfish and shad in California.] Bulletin, 1886 (1887), vol. VI, p. 315.

Louisiana.

- Evermann, Barton Warren:** Report on investigations [of the catfish industry] by the United States Fish commission in Louisiana . . . in 1897. Report, 1898 (1899), p. 290-301. *Doc. 405 issued Mar. 21, 1899.* F11-117

COD.

General.

- Alexander, Alvin B.:** [Notes on fishery investigations from July 1 to 26, 1894.] Report, 1895 (1896), p. 139-145.
- Collins, J. W.:** [Gill-nets in the cod-fishery in the United States.] Bulletin, 1881 (1882), vol. I, p. 1-17, pl. I-XII.
- Notes on the habits and methods of capture of various species of sea birds that occur on the fishing banks off the eastern coast of North America, and which are used as bait for catching codfish by New England fishermen. Report, 1882 (1884), p. 311-338, pl. F16-311
- Some observations on the cod gill-net fisheries and on preservatives for nets. Bulletin, 1884 (1884), vol. IV, p. 58-59. F18-220
- Gill-nets in the cod-fishery: a description of Norwegian cod-nets, etc., and a history of their use in the United States. Report, 1884 (1886), p. 265-288. F17-127
- Dambeck, Carl:** Geographical distribution of the Gadidæ or the cod family, in its relation to fisheries and commerce. Report, 1877 (1879), p. 531-557. F16-108

Goode, G. Brown, and J. W. Collins: The cod, haddock and hake fisheries. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 1, pt. II, p. 123-243 incl. tables.

Success of cod gill-net fishery. Bulletin, 1883 (1883), vol. III, p. 416.

Wilcox, William A.: Reappearance of young cod hatched by the U. S. Fish commission. Bulletin, 1883 (1883), vol. III, p. 439. F18-170

Alaska.

Bower, Ward Taft: Alaska fisheries and fur industries. (Cod fisheries.) Appendix VII, Report, 1918 (1920), p. 58-61; Appendix IX, Report, 1919 (1921), p. 55-57. F12-388

Bower, Ward T., and Henry D. Aller: Alaska fisheries and fur industries. (Cod fisheries.) Appendix IX, Report, 1914 (1915), p. 53-55; Appendix III, Report, 1915 (1917), p. 54-57; Appendix II, Report, 1916 (1917), p. 68-71; Appendix II, Report, 1917 (1919), p. 47-49. F12-388

Bower, Ward Taft, and H. Clifford Fassett: [Cod fishery industry in Alaska: p. 122-123.] *In* Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388

Chamberlain, Frederick M., and Ward Taft Bower: [Cod fishery: p. 64-66.] *In* Fishery and fur industries in Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.* F12-388

Cobb, John Nathan: The commercial fisheries of Alaska. (Cod fishery: p. 9-14.) Report and special papers, 1905 (1907), 46 p. *Doc. 603 issued Oct. 16, 1906.* 6-35319

Cobb, John Nathan, and Frederick M. Chamberlain: [Cod fishery: p. 53-56.] *In* Alaska fisheries and fur industries in 1911, by B. W. Evermann. Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388

Cobb, John Nathan, and Howard M. Kutchin: The fisheries of Alaska in 1906. (Cod fisheries: p. 45-48.) Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263

[A codfish bank near Noonivak Island.] Bulletin, 1885 (1885), vol. V, p. 337.

Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1907. (Cod fisheries: p. 44-48.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. *Doc. 632 issued Apr. 16, 1908.* 7-35263

— The fisheries of Alaska in 1908. (Cod fisheries: p. 59-62.) Report and special papers, 1908 (1910), 78 p. *Doc. 645 issued Apr. 17, 1909.* 7-35263

— The fisheries of Alaska in 1909. (Cod fisheries: p. 41-42.) Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263.

— The fisheries of Alaska in 1910. (Cod fisheries: p. 37-40.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263

Massachusetts.

Atwood, Nathaniel E.: Unexplained variations in the yield of oil from cod livers. Bulletin, 1883 (1883), vol. III, p. 431-432. F18-165

Earl, Edward R.: A report on the history and present condition of the shore codfisheries of Cape Ann, Mass., together with notes on the natural history and artificial propagation of the species. Report, 1878 (1880), p. 685-740. *Doc. 33 issued June 27, 1881.* F11-221

Haskell, E. H.: Second annual appearance of young cod hatched by the United States Fish commission in Gloucester Harbor in the winter of 1879-80. Bulletin, 1882 (1883), vol. II, p. 112. F18-84

Martin, Stephen J.: Cod-fishing with gill-nets in Ipswich Bay, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 264, 343-345. F18-50, F20-132

— Cod fishing with gill-nets from Gloucester, Massachusetts. Bulletin, 1881 (1882), vol. I, p. 384. F20-131

— Notes on the cod gill-net fisheries of Gloucester, Mass., 1883-1884. Bulletin, 1884 (1884), vol. IV, p. 129-134, 191-192. F20-135

— [Large catch of pollock.] Bulletin, 1886 (1887), vol. VI, p. 454.

Rathbun, Richard: [Cod fisheries—Massachusetts.] Report, 1889-1891 (1893), p. 155-157.

Spinney, Benjamin H.: Return to Gloucester of young codfish hatched by U. S. Fish commission in 1879. Bulletin, 1883 (1883), vol. III, p. 362. F18-147

Tarr, Ralph Stockman: Return to Gloucester Harbor of the young codfish hatched by the U. S. Fish commission. Bulletin, 1884 (1884), vol. IV, p. 57-58. F18-219

Maine.

Tibbetts, N. V.: Scarcity of cod and haddock on the coast of Maine. Bulletin, 1886 (1887), vol. VI, p. 75-76. F18-537

New England.

- Collins, Joseph William:** Success of the gill-net cod fishery on the New England coast, winter of 1882-83. Bulletin, 1883 (1883), vol. III, p. 441-443. F18-173
- U. S. Commissioner of Fisheries:** [Decrease of cod fisheries on the New England coast.] Report, 1872 and 1873 (1874), p. XI-XIV.

Chesapeake Bay.

- Collins, J. W.:** An inquiry as to the capture of young codfish in Chesapeake Bay. Bulletin, 1881 (1882), vol. I, p. 401-402. F20-118
- Ryder, Francis W.:** Codfish caught near Cape Charles, mouth of Chesapeake Bay, in 1834. Bulletin, 1881 (1882), vol. I, p. 384-385. F20-141

Pacific coast.

- Alexander, Alvin B.:** [Pacific coast cod fishery.] Report, 1904 (1905), p. 137-138.
- Cobb, John Nathan:** Pacific cod fisheries. (Bibliography: p. 108-111.) Appendix IV, Report, 1915 (1917), 111 p., IX pl., chart. *Doc. 830 issued Oct. 23, 1916.* F16-19
- Collins, Joseph William:** [Cod fishery of the Pacific coast of the United States.] Report, 1888-89 (1892), p. 91-109.
- San Francisco Bulletin:** [Codfish on the north Pacific coast in 1886.] Bulletin, 1886 (1887), vol. VI, p. 309-310.
- Swan, James G.:** [Codfish in the Pacific.] Bulletin, 1886 (1887), vol. VI, p. 131.
- [Codfish on the Pacific coast.] Bulletin, 1886 (1887), vol. VI, p. 141.
- U. S. Commissioner of Fisheries:** [Cod fisheries.] Report, 1906 (1908), p. 17.
- Wilcox, William A.:** [The Pacific cod-fishery.] Report, 1893 (1895), p. 199-201.

EEL.

Alaska.

- Derby, V. L.:** [Catching eels with dip-nets.] *Quoted by* Evermann and Goldsborough. Bulletin, 1906 (1907), vol. XXVI, p. 227-228.

Maryland.

- U. S. Bureau of Fisheries:** Statistics of the fisheries of the Middle Atlantic States for 1904. (Eel fisheries, Maryland: p. 88.) Report and special papers, 1905 (1907), 122 p. *Doc. 609 issued Feb. 19, 1907.* 7-35091

Massachusetts.

- Nye, Willard:** [The eel in Westport River.] Bulletin, 1887 (1889), vol. VII, p. 33.

New York.

- Cobb, J. N.:** [Eel fishery in Oneida River, New York.] Report, 1903 (1905), p. 235.

FLOUNDER.

General.

- U. S. Commissioner of Fisheries:** [Flounder fishery.] Report, 1907 (1909), p. 16.

Massachusetts.

- Alexander, Alvin Burton; Henry Frank Moore; and William Converse Kendall:** Otter-trawl fishery. (Cape Cod flounder fishery: p. 56-57.) Report and special papers, 1914 (1915), 97 p. *Doc. 816 issued Apr. 17, 1915.* F15-40

Texas.

- Stevenson, Charles Hugh:** [Flounder fisheries of Texas.] Report, 1889-1891 (1893), p. 384-385.

GOURAMI.

- Gill, Theodore Nicholas:** Natural and economical history of the gourami (*Osphromerus goramy*). Report, 1872 and 1873 (1874), p. 710-728, pl. XXXV-XXXVI. *Doc. 9 issued Jan. 26, 1875.* F11-205

GRAYFISH.

- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coasts of Washington and Oregon in 1914. (Dogfish fishery: p. 25.) Appendix VII, Report, 1914 (1915), p. 30. *Doc. 817 issued June 8, 1915.* F15-86

HADDOCK.

General.

- Moore, H. F.: The haddock: one of the best salt-water fishes. 8 p., illus. F20-159
Economic Circular 47 issued Aug. 18, 1920.

New England.

- Goode, George Brown, and J. W. Collins: The winter haddock fishery of New England. Bulletin, 1881 (1882), vol. I, p. 225-235. Doc. 31 issued 1881. F12-238

HALIBUT.

General.

- Broca, P. de: The halibut fishery of the United States. Report, 1873-74 and 1874-75 (1876), p. 169-171. F16-9
 Collins, Joseph William: [Some localities where chicken halibut are found.] Bulletin, 1886 (1887), vol. VI, p. 412-413.
 Goode, G. Brown, and Joseph William Collins: The fresh-halibut fisheries. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. I, p. 1-89, illus.
 Scudder, Newton P.: The salt-halibut fishery, with especial reference to that of Davis' Straits. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. I, p. 90-119 incl. tables.

Alaska.

- Bower, Ward Taft: Alaska fisheries and fur industries. (Halibut fisheries.) Appendix VII, Report, 1918 (1920), p. 57-58; Appendix IX, Report, 1919 (1921), p. 53. F12-388
 Bower, Ward T., and Henry D. Aller: Alaska fisheries and fur industries. (Halibut fisheries.) Appendix IX, Report, 1914 (1915), p. 49-52; Appendix III, Report, 1915 (1917), p. 51-54; Appendix II, Report, 1916 (1917), p. 56-68; Appendix II, Report, 1917 (1919), p. 43-46. F12-388
 Bower, Ward Taft, and H. C. Fassett: [Halibut fishery of Alaska: p. 116-122.] In Alaska fisheries and fur industries in 1913, by Barton Warren Evermann. Appendix II, Report, 1913 (1914), 172 p. Doc. 797 issued Aug. 29, 1914. F12-388
 Chamberlain, Fred M., and Ward T. Bower: [Halibut fishery: p. 60-64.] In Fishery and fur industries of Alaska in 1912, by Barton Warren Evermann. Report and special papers, 1912 (1914), 123 p. Doc. 780 issued Nov. 6, 1913. F12-388
 Cobb, John Nathan: The commercial fisheries of Alaska. (Halibut fishery: p. 15-19.) Report and special papers, 1905 (1907), 46 p. Doc. 603 issued Oct. 16, 1906. 6-35319
 Cobb, John Nathan, and Frederick M. Chamberlain: [Halibut fishery: p. 56-59.] In Alaska fisheries and fur industries in 1911, by B. W. Evermann. Report and special papers, 1911 (1913), 99 p. Doc. 766 issued Dec. 16, 1912. F12-388
 Cobb, John Nathan, and Howard M. Kutchin: The fisheries of Alaska in 1906. (Halibut fishery: p. 48-51.) Report and special papers, 1906 (1908), 70 p. Doc. 618 issued May 16, 1907. 7-35263
 Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1907. (Halibut fisheries: p. 48-53.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. Doc. 632 issued Apr. 16, 1908. 7-35263
 — The fisheries of Alaska in 1908. (Halibut fishery: p. 62-65.) Report and special papers, 1908 (1910), 78 p. Doc. 645 issued Apr. 17, 1909. 7-35263
 — The fisheries of Alaska in 1909. (Halibut fishery: p. 43-48.) Report and special papers, 1909 (1911), 58 p. Doc. 730 issued Apr. 20, 1910. 7-35263
 — The fisheries of Alaska in 1910. (Halibut fishery: p. 40-45.) Report and special papers, 1910 (1911), 72 p. Doc. 746 issued Apr. 19, 1911. 7-35263
 Moser, Jefferson F.: [The halibut fisheries of Alaska.] Bulletin, 1898 (1899), vol. XVIII, p. 45-48.
 — [Halibut fisheries of southeastern Alaska.] Bulletin, 1901 (1902), vol. XXI, p. 309.
New England.
 Boston Daily Advertiser: [Halibut getting scarce.] Bulletin, 1885 (1885), vol. V, p. 90.
 Collins, J. W.: Notes on the halibut fisheries of 1881-82. Bulletin, 1882 (1883), vol. II, p. 311-316. F12-365
 — [Halibut fisheries.] Report, 1886 (1889), p. 709-710.

- Scudder, Newton Pratt: The halibut fishery—Davis' Strait. Report, 1880 (1883), p. 189-228. *Doc. 43 issued Apr. 26, 1882.* F11-217
- U. S. Commissioner of Fisheries: [Halibut fisheries.] Report, 1881 (1884), p. XXVII-XXVIII.
- [Halibut fisheries.] Report, 1906 (1908), p. 17.
- [Halibut fisheries.] Report, 1907 (1909), p. 16.

Pacific coast.

- Alexander, A. B.: Notes on the halibut fishery of the northwest coast in 1895. Bulletin, 1897 (1898), vol. XVII, p. 141-144. *Doc. 359 issued Feb. 8, 1898.* F12-244
- Preliminary examination of halibut fishing grounds of the Pacific coast. With introductory notes on the halibut fishery, by H. B. Joyce. Report and special papers, 1911 (1912), 56 p. *Doc. 763 issued July 22, 1912.* F12-203
- [Halibut fisheries of the Pacific.] Report, 1904 (1905), p. 138-140.
- Collins, Joseph William: [Halibut fisheries, Puget Sound.] Report, 1888-89 (1892), p. 260-267.
- San Francisco Examiner: [A cargo of halibut.] Bulletin, 1894 (1895), vol. XIV, p. 285.
- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll: Survey of the fishing grounds on the coast of Washington and Oregon in 1914. (Halibut fishery: p. 22-23.) Appendix VII, Report, 1914 (1915), 30 p., pl., fold. tab., 2 fold. charts. *Doc. 817 issued June 8, 1915.* F15-86
- U. S. Commissioner of Fisheries: [Pacific halibut fishery.] Report, 1911 (1913), p. 51-52.
- Wilcox, William A.: The commercial fisheries of the Pacific Coast States for 1904. (Halibut fishery: p. 13-14.) Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.*

Bering Sea.

- Krause, Earl E. H.: Cod and halibut fisheries near the Shumagin Islands. Bulletin, 1881 (1882), vol. I, p. 259-260. F18-47

HERRING.

General.

- Earll, R. Edward: The herring fishery and the sardine industry. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. IV, p. 419-524.
- Grant, Isaac H.: Catch of herring. Bulletin, 1883 (1883), vol. III, p. 470. F18-195
- U. S. Commissioner of Fisheries: [The alewife or fresh-water herring.] Report, 1872 and 1873 (1874), p. LIX.

Alaska.

- Bower, Ward Taft: Alaska fisheries and fur industries. (Herring fisheries.) Appendix VII, Report, 1918 (1920), p. 61-63; Appendix IX, Report, 1919 (1921), p. 54-55. F12-388
- Bower, Ward Taft, and Henry D. Aller: Alaska fisheries and fur industries. (Herring fisheries.) Appendix IX, Report, 1914 (1915), p. 55-58; Appendix III, Report, 1915 (1917), p. 57-63; Appendix II, Report, 1916 (1917), p. 71-73; Appendix II, Report, 1917 (1919), p. 49-51. F12-388
- Bower, Ward Taft, and Clifford H. Fassett: [Herring fishery: p. 97-122.] *In* Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388
- Chamberlain, Frederick M., and Ward Taft Bower: [Herring fishery: p. 56-60.] *In* Fishery and fur industries of Alaska in 1912, by Barton W. Evermann. Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.* F12-388
- Cobb, John Nathan: The commercial fisheries of Alaska. (Herring fishery: p. 20-22.) Report and special papers, 1905 (1907), 46 p. *Doc. 603 issued Oct. 16, 1906.* 6-35319
- Cobb, John Nathan, and Frederick M. Chamberlain: Alaska fisheries and fur industries in 1911. (Herring fishery: p. 59-63.) Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388
- Cobb, John Nathan, and Howard M. Kutchin: The fisheries of Alaska in 1906. (Herring fishery: p. 52-56.) Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263

- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1908. (Herring fishery: p. 53-54.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. *Doc. 632 issued Apr. 16, 1908.* 7-35263
- The fisheries of Alaska in 1908. (Herring fishery: p. 65.) Report and special papers, 1908 (1910), 78 p. *Doc. 645 issued Apr. 17, 1909.* 7-35263
- The fisheries of Alaska in 1909. (Herring fishery: p. 48-50.) Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263
- The fisheries of Alaska in 1910. (Herring fishery: p. 45-51.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263

Maine.

- Earll, R. Edward:** Notes on certain fishery industries of Eastport, Maine, in 1886. Bulletin, 1887 (1889), vol. VII, p. 267-274. F18-675
- Earll, R. Edward, and Hugh M. Smith:** The American sardine industry in 1886. Bulletin, 1887 (1889), vol. VII, p. 161-192 incl. tables. *Doc. 123 issued June 20, 1889.* F11-252
- Hall, Ansley:** The herring industry of the Passamaquoddy region, Maine. Report, 1896 (1898), p. 443-487 incl. tables. *Doc. 360 issued 1897.* F11-183
- Moore, Henry Frank:** Observations on the herring and herring fisheries of the northeast coast, with special reference to the vicinity of Passamaquoddy Bay. Report, 1896 (1898), p. 387-442, pls. *Doc. 356 issued Feb. 8, 1898.* F11-182

Massachusetts.

- Abbe, W. A.:** Occurrence of herring. Bulletin, 1883 (1883), vol. III, p. 468-469. F18-192
- Collins, J. W.:** Notes on the herring fishery of Massachusetts Bay in the autumn of 1882. Bulletin, 1882 (1883), vol. II, p. 287-290. F12-364
- U. S. Commissioner of Fisheries:** [Herring fisheries in 1906.] Report and special papers, 1907 (1909), p. 15.

Potomac River.

- Chapman, Pearson, sr.:** Habits of the shad and herring as they appear in the Potomac River to one who has watched them for fifty years. Bulletin, 1884 (1884), vol. IV, p. 61-64. F13-81
- Harris, Gwynn:** Report upon the shad and herring fisheries of the Potomac River for 1882-1886. Bulletin, 1883 (1883), vol. III, p. 477; 1884 (1884), vol. IV, p. 13, 221; 1885 (1885), vol. V, p. 192; 1886 (1887), vol. VI, p. 202. F18-202
- McDonald, Marshall:** [Herring fisheries of the Potomac, during 1883.] Report, 1883 (1885), p. 1030-1031.

Puget Sound.

- Swan, James G.:** Notes on the fisheries and the fishery industries of Puget Sound. Bulletin, 1893 (1894), vol. XIII, p. 371-380, pl. 17. *Doc. 274 issued June 16, 1894.* F12-183

KINGFISH: FLORIDA.

- Collins, Joseph William:** [Kingfish fishery.] Report, 1885 (1887), p. 267-273.

MACKEREL.

General.

- Abbe, W. A.:** Proposed limitation * * * of mackerel fishing to June 15 * * *. Bulletin, 1883 (1883), vol. III, p. 468-469. F18-192
- Blackford, Eugene Gilbert:** [Cheap mackerel.] Bulletin, 1886 (1887), p. 459-460.
- Chadwick, B. P.:** Young mackerel destroyed by small-meshed seines. Bulletin, 1886 (1887), vol. VI, p. 193. F18-570
- Collins, J. W.:** Notes on the movements, habits, and capture of mackerel for the season of 1882. Bulletin, 1882 (1883), vol. II, p. 273-285. F12-363
- Movements of mackerel in winter. Bulletin, 1884 (1884), vol. IV, p. 15. F18-205
- [Mackerel fishery.] Report, 1887 (1891), p. 515-520.
- Earll, R. Edward:** The Spanish mackerel; its natural history and artificial propagation, with an account of the origin and development of the fishery. Report, 1880 (1883), p. 395-426. *Doc. 60 issued July 9, 1883.* F11-332
- The Spanish mackerel fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. VIII, p. 543-552.
- [The first mackerel catch of the season.] Bulletin, 1886 (1887), vol. VI, p. 460:

- Goode, G. Brown, and J. W. Collins:** The mackerel fishery of the United States. In *The fisheries and fishery industries of the United States*. 1887. Sec. V, vol. I, pt. II, p. 245-313 incl. tables.
- Goode, George Brown; Joseph William Collins; R. E. Earll; and A. Howard Clark:** Materials for a history of the mackerel fishery. (*Contents*.—Natural history, by G. B. Goode. The mackerel fishery of the United States, by G. B. Goode and J. W. Collins. Legislation for the protection of mackerel. Statistics of the mackerel fishery in 1880, by R. E. Earll. The mackerel canning industry, by R. E. Earll. Methods of packing, and inspection laws, by A. H. Clark. Statistics of inspection of mackerel from 1804 to 1880, by A. H. Clark. Chronological notes, by J. W. Collins. Inspection laws, comp. by A. H. Clark. The mackerel fleet. Mackerel fishery in the Gulf of Saint Lawrence.) Report, 1881 (1884), p. 91-531 incl. tables, chart. *Doc. 52 issued Jan. 3, 1883.* 7-38960
- Holmes, John F.:** [Movements of mackerel.] Bulletin, 1886 (1887), vol. VI, p. 137, 464.
- Kendall, William Converse:** Effects of the menhaden and mackerel fisheries upon the fish supply. Bulletin, 1908 (1910), vol. XXVIII, p. 279-293. *Doc. 658 issued February, 1910.* 10-35152
- Low, D. W.:** [Itinerary of a mackerel voyage to the Gulf of Saint Lawrence.] *Quoted by Goode in The fisheries and fishery industries of the United States*. 1887. Sec. V, vol. I, pt. II, p. 292-294.
- McLain, Melvin:** [A large catch of mackerel.] Bulletin, 1886 (1887), vol. VI, p. 137.
- Merchant, George:** The incipency of night-seining for mackerel. Bulletin, 1884 (1884), vol. IV, p. 142. F18-251
- Moore, J. Percy:** The utility and methods of mackerel propagation. Bulletin, 1897 (1898), vol. XVII, p. 353-361. *Doc. 394 issued Aug. 8, 1898.* F12-110
- Report on mackerel investigations in 1897. Report, 1898 (1899), p. 1-22, pls. F11-111
Doc. 399 issued Mar. 28, 1899.
- Phillips, Barnet:** Early catch of mackerel. Bulletin, 1883 (1883), vol. III, p. 280. F18-136
- Rathbun, Richard:** [Investigation of the mackerel fishery.] Reports, 1889-1891 (1893), p. 129; 1893 (1895), p. 46-48; 1894 (1896), p. 91-94; 1895 (1896), p. 80-82; 1896 (1898), p. 103-105.
- Smith, Hugh McCormick:** [Mackerel fishery, Atlantic coast.] Report, 1889-1891 (1893), p. 188-190.
- The southern spring mackerel fishery of the United States. Bulletin, 1898 (1899), vol. XVIII, p. 193-271. *Doc. 411 issued Oct. 19, 1899.* F12-97
- [Races of mackerel on the Atlantic coast.] Report, 1900 (1901), p. 127-128.
- Tanner, Zera Luther:** Report on the work of the United States Fish Commission steamer *Albatross* for the year ending December 31, 1883. Report, 1883 (1885), p. 117-236. *Doc. 96 issued Aug. 16, 1886.* F11-303
- Townsend, Charles Haskins:** [The mackerel fishery.] Report, 1901 (1902), p. 149-150.
- U. S. Bureau of Fisheries:** Questions relative to mackerel and the mackerel fisheries. Bulletin, 1886 (1887), vol. VI, p. 425-427. F18-623
- U. S. Commissioner of Fisheries:** [Mackerel fisheries.] Report, 1906 (1908), p. 16-17; 1907 (1909), p. 14; 1909 (1911), p. 22-24; 1910 (1911), p. 28-30; 1915 (1917) p. 62.
- Wilcox, W. A.:** [The mackerel fisheries of 1885 and 1886.] Report, 1885 (1887), p. LXIII-LXV; 1886 (1889), p. XVII-XIX.

Florida.

- Collins, J. W.:** Note on the occurrence of mackerel off the coast of Florida. Bulletin, 1887 (1889), vol. VII, p. 128. F18-663
- Latham, Silas B.:** [Mackerel on the coast of Florida.] Bulletin, 1887 (1889), vol. VII, p. 3 4.

Massachusetts.

- Babson, F. J.:** [The Gloucester mackerel fishery of 1884.] Bulletin, 1885 (1885), vol. V, p. 343-346.
- Elliott, James W.:** [Mackerel, bluefish, codfish, etc., off the northeastern coast of Massachusetts.] Bulletin, 1886 (1887), vol. VI, p. 412.
- Martin, S. J.:** Notes on the mackerel fishery of 1881. Bulletin, 1881 (1882), vol. I, p. 132-133. F18-30
- Movements and catch of mackerel. Bulletin, 1882 (1883), vol. II, p. 89-90. F18-78
- The movements of schools of mackerel. Bulletin, 1883 (1883), vol. III, p. 295-296. F20-134

- Nye, Willard:** Mackerel abundant in Amherst River. Bulletin, 1882 (1883), vol. II, 272. F18-102
- Smiley, Charles W.:** The proposed use of steamers in the mackerel fishery. Bulletin, 1882 (1883), vol. II, p. 155-158. F12-354
New York.
- Collins, J. W.:** First arrival of mackerel in New York in the spring of 1882. Bulletin, 1881 (1882), vol. I, p. 402.
North Carolina.
- U. S. Hydrographic Office:** [Mackerel off Cape Fear.] Bulletin, 1886 (1887), vol. VI, p. 405.
Texas.
- Labatt, Henry L.:** [Spanish mackerel abundant in summer at Galveston.] Bulletin, 1886 (1887), vol. VI, p. 315.
Virginia.
- McDonald, Marshall:** Spanish mackerel—investigations at Cherrystone, Va., during the summer of 1881. Report, 1881 (1884), p. 1131-1133. F18-348
New England.
- Collins, J. W.:** A search for mackerel off Block Island, Montauk, and Sandy Hook, in November, 1883. Bulletin, 1884 (1884), vol. IV, p. 49-51. F18-213
- Smith, Hugh McCormick:** [New England mackerel fishery.] Report, 1894 (1896), p. 115-122.
Pacific Coast.
- Collins, Joseph William:** [Mackerel fishery of the Pacific coast of the United States.] Report, 1888-89 (1892), p. 15-17.
Gulf of St. Lawrence.
- Collins, Joseph William:** On the scarcity of mackerel in the Gulf of St. Lawrence. Bulletin, 1884 (1884), vol. IV, p. 427-430, 435-438. F18-359

MENHADEN.

General.

- Abbe, W. A.:** Proposed limitation of menhaden fishing to July 1 * * *. Bulletin, 1883 (1883), vol. III, p. 468-469. F18-192
- Babbitt, John O.:** The injurious effect of menhaden steamers upon the food fisheries. Bulletin, 1883 (1883), vol. III, p. 463-464. F18-189
- Barker, E. L.:** The incipency of the menhaden oil business. Bulletin, 1883 (1883), vol. III, p. 456. F18-184
- Church, Daniel T.:** Why the size of mesh in menhaden seines should not be restricted. Bulletin, 1883 (1883), vol. III, p. 463. F18-188
- Deblois, E. T.:** The origin of the menhaden industry. Bulletin, 1881 (1882), vol. I, p. 46-51. F12-333
- Friedlaender, Oscar O.:** Notes on the menhaden industry. Bulletin, 1882 (1883), vol. II, p. 252; 1883 (1883), vol. III, p. 459-461; 1884 (1884), vol. IV, p. 47-48. F18-100, F18-186, F18-211
- Goode, George Brown:** The natural and economical history of the American menhaden. Report, 1877 (1879), 529 p., XXX pl. F12-236
- Goode, G. Brown, and A. Howard Clark:** The menhaden fishery. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. V, p. 327-415.
- Grant, Isaac H.:** Movements of menhaden. Bulletin, 1883 (1883), vol. III, p. 470. F18-195
- Hathaway, Walter E.:** Effects of menhaden fishing upon the supply of menhaden and of the fishes that prey upon them. Bulletin, 1908 (1910), vol. XXVIII, p. 269-278. *Doc. 657 issued 1910.* 10-35137
- Homergue, Louis C. d':** Reasons for restricting the use of steamers and seines in the menhaden industry. Bulletin, 1883 (1883), vol. III, p. 456-458. F18-185
- Kendall, William Converse:** Effects of the menhaden and mackerel fisheries upon the fish supply. Bulletin, 1908 (1910), vol. XXVIII, p. 279-293. *Doc. 658, issued February, 1910.* 10-35152
- King, W. Z.:** [The menhaden season of 1884]. Bulletin, 1885 (1885), vol. V., p. 75.
- Rathbun, Richard:** [Menhaden fishery.] Report, 1894 (1896), p. 94-95.

- Smith, Hugh McCormick:** [Menhaden fishery]. Report, 1889-1891 (1893), p. 202-203; 1892 (1894), p. CLVII; 1894 (1896), p. 141; 1895 (1896), p. 108-112.
 — Notes on an investigation of the menhaden fishery in 1894, with special reference to food-fishes taken. Bulletin, 1895 (1896), vol. XV, p. 285-302. *Doc. 302 issued Feb. 28, 1896.* F12-400
- Southwick, J. M. K.:** The appearance of sharks, squid, menhaden, and frost-fish. Bulletin, 1885 (1885), vol. V, p. 358. F18-475
- Stevenson, Charles Hugh:** [The menhaden industry.] Report, 1902 (1904), p. 255-272.
- Tanner, Zera Luther:** Report on the work of the U. S. Fish commission steamer *Albatross* for the year ending December 31, 1883. Report, 1883 (1885), p. 117-236. *Doc. 96 issued Aug. 16, 1886.* F11-303
- U. S. Commissioner of Fisheries:** [The menhaden industry]. Report, 1900 (1901), p. 253; 1902 (1904), p. 476-477; 1914 (1915), p. 18-22.
- Vail, David F.:** Why the catching of menhaden with seines, etc., should be restricted. Bulletin, 1883 (1883), vol. III, p. 469. F18-194
- Wharton, Joseph:** Why menhaden seining should not be prohibited within two miles of the shore. Bulletin, 1883 (1883), vol. III, p. 462. F18-187

Connecticut.

- Goode, George Brown:** [The menhaden fisheries of Connecticut.] Report, 1877 (1879), p. 44, 85-87, 116.

Delaware.

- Goode, George Brown:** [The menhaden fisheries of Delaware.] Report, 1877 (1879), p. 41-42, 90, 116-117.

Florida.

- Goode, George Brown:** [The menhaden fisheries of Florida.] Report, 1877 (1879), p. 39.

Maine.

- Goode, George Brown:** [The menhaden fisheries of Maine.] Report, 1877 (1879), p. 48-50, 79-81, 114, 126-129.

Maryland.

- Soper, Adelbert:** [First appearance of menhaden.] Bulletin, 1886 (1887), vol. VI, p. 136.

Massachusetts.

- Goode, George Brown:** [The menhaden fisheries of Massachusetts.] Report, 1877 (1879), p. 45-48, 81-84, 115, 125-126.

New Jersey.

- Goode, George Brown:** [The menhaden fisheries of New Jersey.] Report, 1877 (1879), p. 42, 90, 116.

New York.

- Conklin, B. F.:** [The menhaden fishery at the east end of Long Island; 1793 to 1880.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. IV, p. 370-409.

- Goode, George Brown:** [The menhaden fisheries of New York.] Report, 1877 (1879), p. 42, 87-88, 116.

North Carolina.

- Goode, George Brown:** [The menhaden fisheries of North Carolina.] Report, 1877 (1879), p. 40-41, 91-92, 117.

Rhode Island.

- Goode, George Brown:** [The menhaden fisheries of Rhode Island.] Report, 1877 (1879), p. 44, 84-85, 115-116.

- Southwick, J. M. K.:** The appearance of menhaden. Bulletin, 1885 (1885), vol. V, p. 358. F18-475

South Carolina.

- Mazyck, W. St. J.:** [Scarcity of menhaden, sea-trout, and skip-jack off coast of South Carolina.] Bulletin, 1885 (1885), vol. V, p. 85-86.

Virginia.

- Goode, George Brown:** [The menhaden fisheries of Virginia.] Report, 1877 (1879), p. 41, 90-91, 117.

Polk, William R.: Experience of a menhaden oil manufacturer in Northumberland County, Va. Bulletin, 1883 (1883), vol. III, p. 455. F18-183

Middle Atlantic States.

Smith, Hugh McCormick: [Report on the menhaden fisheries of the Middle Atlantic States.] Bulletin, 1894 (1895), vol. XIV, p. 462-464.

U. S. Bureau of Fisheries: Statistics of the fisheries of the Middle Atlantic States for 1904. (Menhaden fisheries: p. 27-28, 53, 97-98, 121.) Report and special papers, 1905 (1906), 122 p. *Doc. 609 issued Feb. 19, 1907.* 7-35091

Atlantic Coast.

Greer, Rob Leon: The menhaden industry of the Atlantic coast. Appendix III, Report, 1914 (1915), 27 p., VII pl. *Doc. 811 issued Apr. 7, 1915.* F15-29

——— The menhaden industry of the Atlantic coast. (Selected bibliography of papers relating to fish fertilizers: p. 30.) 30 p., VII pl. *Doc. 811 reprinted with additions Oct. 18, 1917.* F17-263

MULLET.

General.

Earll, R. Edward: The mullet fishery. *In* The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. IX, p. 553-582.

Florida.

Evermann, Barton Warren, and Tarleton Hoffman Bean: [Mullet fisheries of Indian River, Florida.] Report, 1896 (1897), p. 231-232.

Phillips, Barnet: Some notes on the mullet fisheries. Bulletin, 1884 (1884), vol. IV, p. 135-137. F13-89

Ravenel, W. de C.: Information bearing upon the artificial propagation of mullet. Bulletin, 1887 (1889), vol. VII, p. 197-202. F18-667

North Carolina.

Ravenel, W. de C.: Information bearing upon the artificial propagation of mullet. Bulletin, 1887 (1889), vol. VII, p. 197-202. F18-667

Gulf States.

U. S. Bureau of Fisheries: [Mullet fisheries of the Gulf States.] Report, 1899 (1900), p. 124; 1903 (1905), p. 439-440.

POMPAÑO: FLORIDA.

Evermann, Barton Warren, and Tarleton Hoffman Bean: [The pompano fisheries of Indian River, Florida.] Report, 1896 (1898), p. 232-233.

RED SNAPPER.

General.

Collins, Joseph William: [The red-snapper fishery.] Report, 1885 (1887), p. 276-297, X pl.

Latham, Silas B.: [Range of the red snapper.] Bulletin, 1887 (1889), vol. VII, p. 34.

Warren, Andrew F.: The red-snapper fisheries: their past, present, and future. Bulletin, 1897 (1898), vol. XVII, p. 331-335. *Doc. 390 issued Aug. 8, 1898.* F12-110

Florida.

Collins, Joseph William: Notes on the red-snapper fishery. (Based on information gathered from Capt. Silas Latham.) Bulletin, 1886 (1887), vol. VI, p. 299-300. F18-598

Stearns, Silas: [Notes on the red snapper.] Bulletin, 1885 (1885), vol. V, p. 92-93, ——— The red-snapper fishery and the Havana market fishery of Key West, Florida.

In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. X, p. 583-594.

Warren & Co.: [Where and how the red snapper is caught.] Bulletin, 1885 (1885), vol. V, p. 93-94.

Texas.

Stevenson, Charles Hugh: [Red-snapper fishery on the coast of Texas.] Report, 1889-1891 (1893), p. 383-384.

Gulf States.

- U. S. Bureau of Fisheries:** [Red-snapper fishery of the Gulf States.] Report, 1899 (1900), p. 125; 1903 (1905), p. 440-444.

Gulf of Mexico.

- Collins, J. W.:** The red snapper grounds in the Gulf of Mexico. Bulletin, 1885 (1885), vol. V, p. 145-146. F18-393
- Smith, Hugh McCormick:** [Snapper fishery on Campeche Bank, Gulf of Mexico.] Report, 1892 (1894), p. CLXXXIII-CLXXXIV; 1893 (1895), p. 68-70.
- U. S. Commissioner of Fisheries:** [Investigation of the red-snapper fisheries in the Gulf of Mexico.] Report, 1885 (1887), p. LXV-LXVII.

SABLEFISH.

Alaska.

- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1907. (Black cod: p. 61.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. Doc. 632 issued Apr. 16, 1908. 7-35263

Pacific coast.

- Swan, James G.:** Report on the black cod of the North Pacific Ocean. Bulletin, 1885 (1885), vol. V, p. 225-234. F18-413
- U. S. Commissioner of Fisheries:** [Value of black cod for food.] Report, 1883 (1885), p. LXVII.
- [The black cod of the Pacific.] Report, 1885 (1887), p. LXVII.

SALMON.

General.

- Atkins, Charles G.:** On the salmon of eastern North America, and its artificial culture. Report, 1872 and 1873 (1874), p. 226-337. F15-99
- U. S. Bureau of Fisheries:** Miscellaneous notes and correspondence relative to salmon and trout. A. On the salmon in Maine, by Thomas Lincoln. B. On the stomachs of salmon and their contents, by James K. Thacher and Sidney I. Smith. C. On the silver-trout of Monadnock Lake, New Hampshire, by Thomas E. Hatch. D. On the edible qualities of the Sacramento salmon, by S. R. Throckmorton. E. On the salmon fisheries of the Sacramento River, by Livingston Stone. Report, 1872 and 1873 (1874), p. 369-379. F15-106

Alaska.

- Ball, E. M.:** [Copper River fishery.] In Alaska fisheries and fur industries in 1918. Appendix VII, Report, 1918 (1920), p. 31-35.
- Bean, Tarleton Hoffman:** Report on the salmon and salmon rivers of Alaska, with notes on the conditions, methods, and needs of the salmon fisheries. Bulletin, 1889 (1891), vol. IX, p. 165-208, IV, pl. XLV-LXXXVII (partly fold.). [First printed as House misc. doc. 211, 51st Cong.] Doc. 159 issued June 11, 1891. F12-147
- Bower, Ward Taft:** Alaska fisheries and fur industries. (Salmon fisheries.) Appendix VII, Report, 1918 (1920), p. 39-57; Appendix IX, Report, 1919 (1921), p. 38-52. F12-388
- Bower, Ward Taft, and Henry D. Aller:** Alaska fisheries and fur industries. (Salmon fisheries.) Appendix IX, Report, 1914 (1915), p. 80-116; Appendix III, Report, 1915 (1917), p. 35-51; Appendix II, Report, 1916 (1917), p. 38-56; Appendix II, Report, 1917 (1919), p. 28-43. F12-388
- Bower, Ward Taft, and Harry C. Fassett:** [Salmon fisheries: p. 80-116.] In Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914), 172 p. Doc. 797 issued Aug. 29, 1914. F12-388
- Chamberlain, F. M.:** Some observations on salmon and trout in Alaska. Report and special papers, 1906 (1908), 112 p., V pl., fold. map, diagrs. Doc. 627 issued Dec. 18, 1907. 7-35437
- Chamberlain, Frederick M., and Ward Taft Bower:** [Salmon industry: p. 38-56.] In Fishery and fur industries of Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914), 123 p. Doc. 780 issued Nov. 6, 1913. F12-388

- Cobb, J. N., and F. M. Chamberlain: [Salmon industry: p. 36-53.] *In* Alaska fisheries and fur industries in 1911, by B. W. Evermann. Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388
- Cobb, John Nathan, and Howard M. Kutchin: The fisheries of Alaska in 1906. (Report on inspection of salmon fisheries: p. 25-44.) Report and special papers, 1906 (1907), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263
- Evermann, B. W.: [Alaska salmon fishery.] Report, 1904 (1905), p. 87-102.
- Fisher, William J.: Statement of the catch of several companies engaged in the salmon fisheries in Kodiak district, Alaska Territory, during the year 1883. Bulletin, 1884 (1884), vol. IV, p. 134. F18-247
- Gilbert, C. H. and H. O'Malley: [Special investigation of salmon fishery in central and western Alaska.] *In* Alaska fisheries and fur industries in 1919, by W. T. Bower, Appendix IX, Report, 1919 (1921), p. 143.
- Jones, E. L.: Report of Alaska investigations in 1914. 1915. 155 p., illus. F15-10
- McDonald, Marshall: Report of the salmon fisheries of Alaska. Bulletin, 1892 (1893), vol. XII, 49 p., IX pl. (First printed as Senate doc. 192, 52d Cong., 1st sess. Misc. doc.) *Doc. 200 issued July 27, 1892.* F12-119
- Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1907. (Salmon: p. 12-44.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. *Doc. 632 issued Apr. 16, 1908.* 7-35263
- The fisheries of Alaska in 1908. (Salmon fishery: p. 12-56.) Report and special papers, 1908, (1910), 78 p. *Doc. 645 issued Apr. 17, 1909.* 7-35263
- The fisheries of Alaska in 1909. (Salmon fishery: p. 11-40.) Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263
- The fisheries of Alaska in 1910. (Salmon fishery: p. 11-40.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263
- Moser, Jefferson F.: The salmon and salmon fisheries of Alaska. Report of operations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1898. Bulletin, 1898 (1899), vol. XVIII, p. 1-178, illus., folded charts, 63 pl. *Doc. 408 issued July 27, 1899.* F12-94
- The salmon and salmon fisheries of Alaska. Report of the Alaskan salmon investigations of the U. S. Fish commission steamer *Albatross* in 1900 and 1901. Bulletin, 1901 (1902), vol. XXI, p. 173-398, 399-401, illus., fold., tables and charts, XLIV pls. *Doc. 510 issued Oct. 31, 1902.* F12-278
- Rathbun, R.: [Salmon fisheries of Alaska.] Report, 1889-1891 (1893), p. 132-135.
- [Salmon fisheries of Alaska, with act of 1889.] Report, 1888-89 (1892), p. LXXIV-LXXVI.
- Smith, Hugh McCormick: [Salmon fisheries of Alaska.] Report, 1903 (1905), p. 79-80.
- Townsend, C. H.: [Salmon fishery, Yukon River.] Report, 1898 (1899), p. CLXV.
- U. S. Bureau of Fisheries: Explorations of the fishing grounds of Alaska, Washington Territory, and Oregon during 1888, by the U. S. Fish commission steamer *Albatross*, Lieut. Commander A. L. Tanner, U. S. N., commanding. Bulletin, 1888 (1890), vol. VIII, pl. 1-95, XII pl. partly fold. *Doc. 135 issued 1889.* F11-292
- U. S. Commissioner of Fisheries: [Salmon fisheries of Alaska.] Report, 1907 (1909), p. 16-17.
- [Alaska salmon service.] Report, 1912 (1914), p. 58-60; 1913 (1914), p. 33-36.
- Ward, H. B.: [Special investigation of Copper River salmon fishery.] *In* Alaska fisheries and fur industries in 1919, by W. T. Bower, Appendix IX, Report, 1919 (1921), p. 119.

California.

- Cobb, John Nathan: The salmon fisheries of the Pacific coast. (California: p. 18-21, 105-114.) Report and special papers, 1910 (1911). *Doc. 751 issued Nov. 25, 1911.* F11-393
- San Francisco, Weekly Bulletin: [Canned-salmon trade.] Bulletin, 1886 (1887), vol. VI, p. 139.
- Smiley, Charles W.: The influence of artificial propagation upon production illustrated by the salmon work of the Sacramento River, California. Bulletin, 1884 (1884), vol. IV, p. 201-202. F13-96

Connecticut.

- [Connecticut River salmon.] Bulletin, 1886 (1887), vol. VI, p. 453.

Idaho.

- Evermann, Barton Warren: A preliminary report upon salmon investigations in Idaho in 1894. Bulletin, 1895 (1896), vol. XV, p. 253-284. *Doc. 301 issued Feb. 20, 1896.* F12-245

Maine.

- Atkins, Charles G.:** [The seabago salmon fisheries of Maine in 1878]. Report, 1878 (1880), p. 775-787.
- Evermann, Barton Warren:** [The salmon fishery of Penobscot River and Bay, Maine, in 1900 and 1901.] Report, 1903 (1905), p. 110-114.
- Hamlin, Augustus Choate:** On the salmon of Maine. Report, 1872 and 1873 (1874), p. 338-356. F15-103
- Smith, Hugh McCormick:** The salmon fishery of Penobscot Bay and River in 1895 and 1896. Bulletin, 1897 (1898), vol. XVII, p. 113-124, illus., pl. 5. *Doc. 357 issued 1898.* F12-407
- [Salmon fishery of Penobscot Bay and River.] Report, 1897 (1898), p. CXXX-CXXXI.
- [Salmon of Penobscot basin.] Report, 1903 (1905), p. 81-82.
- U. S. Commissioner of Fisheries:** [Salmon fisheries of Penobscot River and Bay.] Report, 1900 (1901), p. 333-335.

Massachusetts.

- Smith, Hugh McCormick:** [Landlocked salmon in Massachusetts.] Report, 1903 (1905), p. 82-83.

New York.

- Green, Seth:** Salmon caught in Genesee River, New York. Bulletin, 1881 (1882), vol. I, p. 23-24. F18-12

Oregon.

- Abernethy, A. S.:** Salmon in the Clackamas River. Bulletin, 1886 (1887), vol. VI, p. 332. F18-603
- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. (Oregon: p. 15-18, 92-105, 159-164.) Report and special papers, 1910 (1911). *Doc. 751 issued Nov. 25, 1911.* F11-393
- Siglin, Zachary T.:** [Salmon fisheries of southern Oregon in 1886.] Bulletin, 1886 (1887), vol. VI, p. 410.

Virginia.

- Baird, Spencer Fullerton:** [Atlantic salmon taken in the Potomac.] Bulletin, 1886 (1887), vol. VI, p. 453.

Washington.

- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. (Washington: p. 179.) Report and special papers, 1910 (1911). *Doc. 751 issued Nov. 25, 1911.* F11-393
- Rathbun, Richard:** [Salmon fisheries in the contiguous waters of the State of Washington and British Columbia.] Report, 1899 (1900), p. 264-328.

New England.

- Smith, Hugh McCormick:** [Salmon fishery of New England.] Report, 1894 (1896), p. 128-129.

Pacific coast.

- Alexander, Alvin B.:** [Salmon fisheries of the Pacific coast.] Report, 1904 (1905), p. 141-162.
- Cobb, John Nathan:** The salmon fisheries of the Pacific coast. Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393
- Pacific salmon fisheries. Appendix III, Report, 1916 (1917), 255 p., incl. tables, XXIX pl. *Doc. 839 issued June 9, 1917.* F17-238
- Collins, Joseph William:** Report on the fisheries of the Pacific coast of the United States. Report, 1888-89 (1892), p. 3-269. *Doc. 178 issued Mar. 3, 1892.* F12-220
- Holden, E. C.:** The Columbia River salmon—a hatchery needed. Bulletin, 1884 (1884), vol. IV, p. 304. F18-321
- Jordan, David Starr, and Charles H. Gilbert:** The salmon fishing and canning interests of the Pacific coast. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. XII, p. 729-753.
- McDonald, Marshall:** The salmon fisheries of the Columbia River basin, together with a report upon physical and natural-history investigations in the region, by C. H. Gilbert and B. W. Evermann. Bulletin, 1894 (1895), vol. XIV, p. 153-207, pl. 13-25 (partly fold.). [First printed as Senate misc. doc. 200, 53d Cong., 2d sess.] *Doc. 290 issued Aug. 27, 1894.* F12-174
- Salmon statistics of the Pacific coast for the seasons of 1884, 1885, and 1886.** Bulletin, 1886 (1887), vol. VI, p. 399-400 incl. tables. F18-619

Smith, Hugh McCormick: [Pacific salmon fishery, with act of 1892.] Report, 1892 (1894), p. CLXXI-CLXXII. F11-351

— Notes on a reconnoissance of the fisheries of the Pacific coast of the United States in 1894. Bulletin, 1894 (1895), vol. XIV, p. 223-228. *Doc. 293 issued May 21, 1895.* F11-351

Stone, Livingston: The salmon fisheries of the Columbia River. Report, 1875-76 (1878), p. 801-823. F16-70

— Scarcity of salmon in the Little Spokane and other streams on the Pacific coast. Bulletin, 1883 (1883), vol. III, p. 476-477. F18-199

Wilcox, William A.: The commercial fisheries of the Pacific Coast States in 1904. (Salmon: p. 9-13.) Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.* 7-35100

— [Salmon fisheries of the Pacific coast.] Report, 1893 (1895), p. 213-250, 284-295, 299-303; 1896 (1898), p. 577-589.

Lake Champlain.

Watson, W. C.: The salmon of Lake Champlain and its tributaries. Report, 1873-74 and 1874-75 (1876), p. 531-540. F16-26.

SARDINE.

General.

Earll, R. Edward: [Sardine industry.] In The fisheries and fishery industries of the United States. 1887. Sec. V. vol. I, pt. VI, p. 489-524.

Earll, R. Edward, and Hugh M. Smith: The American sardine industry in 1886. Bulletin, 1887 (1889), vol. VII, p. 161-192, fold. map. *Doc. 123 issued June 20, 1889.* F11-252

Maine.

Hall, Ansley: The herring industry of the Passamaquoddy region. Report, 1896 (1898), p. 443-487, incl. tables. *Doc. 360 issued 1897.* F11-183

Pacific coast.

Wilcox, William A.: The commercial fisheries of the Pacific Coast States in 1904. (Sardines: p. 15.) Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.* 7-35100

Puget Sound.

Swan, James G.: Notes on the fisheries and the fishery industries of Puget Sound. Bulletin, 1893 (1894), vol. XIII, p. 371-380, pl. 17. *Doc. 274 issued June 16, 1894.* F12-183

SCUP: NEW ENGLAND.

Baird, Spencer Fullerton: [Scup fishery of New England.] Report, 1871-72 (1873), p. 228-235.

Lyman, Theodore: [Scup fisheries.] Report, 1871-72 (1873), p. 112-116.

SHAD.

General.

Collins, Joseph William: Shad taken in mackerel gill-nets. Bulletin, 1882 (1883), vol. II, p. 95. F18-79

Rathbun, Richard: [Inquiry respecting the shad.] Report, 1896 (1898), p. 116.

Smiley, Charles Wesley: Notes on the shad season of 1884, with references to other species. Bulletin, 1884 (1884), vol. IV, p. 337-341. F18-327

Stevenson, Charles H.: The restricted inland range of shad due to artificial obstructions and its effect on natural reproduction. Bulletin, 1897 (1898), vol. XVII, p. 265-271. *Doc. 379 issued Aug. 8, 1898.* F12-110

U. S. Bureau of Fisheries: Notes on the shad season of 1884, with reference to other species. Bulletin, 1884 (1884), vol. IV, p. 337-341. F18-327

U. S. Commissioner of Fisheries: [Shad fisheries—Hudson River, Delaware River, and South Atlantic States.] Report, 1911 (1913), p. 35-37.

Worth, Stephen G.: [Commercial value of the shad.] Report, 1897 (1898), p. 138, also in Manual of fish-culture, rev. ed., 1900, p. 126.

Yarrow, Harry Crécy: Report of a reconnoissance of the shad rivers south of the Potomac. Report, 1872 and 1873 (1874), p. 396-402. F15-109

Connecticut.

- Bean, Tarlton H.:** [Young shad in the Housatonic River, Connecticut.] Bulletin, 1886 (1887), vol. VI, p. 315.
- Chalker, Robert B.:** Catch of shad in Connecticut for 1885, 1886, and 1887. Bulletin, 1886 (1887), vol. VI, p. 297-298, 439-441; 1887 (1889), vol. VII, p. 112. F18-597
- Stevenson, Charles Hugh:** [The shad fisheries of Connecticut in 1896.] Report, 1898 (1899), p. 250-258.

Delaware.

- Jann, P. F.:** Catch of shad in the Delaware River for 1885. Bulletin, 1886 (1887), vol. VI, p. 301. F18-599
- Slack, James H.:** Notes on the shad as observed in the Delaware River. Report for 1872 and 1873 (1874), p. 457-460. F16-65
- Stevenson, Charles Hugh:** [The shad fisheries of Delaware in 1896.] Report, 1898 (1899), p. 218-227.

Florida.

- Cary, H. H.:** The Saint John's River as a shad stream. Bulletin, 1885 (1885), vol. V, p. 422. F18-489
- Dempsey, W.:** Shad in the Saint John's River, Florida. Bulletin, 1886 (1887), vol. VI, p. 96. F18-547
- Ferguson, Thomas B.:** Extracts from a report of investigations of the shad fisheries and rivers south of Charleston, S. C., with a view to establishing stations for artificial propagation. Bulletin, 1884 (1884), vol. IV, p. 244-248. F18-299
- Osborn John H.:** Notes and suggestions concerning the Florida shad fishery. Bulletin, 1881 (1882), vol. I, p. 351. F20-138
- Shad fishing on the St. John's River. Bulletin, 1882 (1883), vol. II, p. 132. F18-89
- Shepard, Joseph:** [Shad fishing on the Saint John's River, Florida.] Bulletin, 1886 (1887), vol. VI, p. 461.
- Stevenson, Charles Hugh:** [The shad fisheries of Florida in 1896.] Report, 1898. (1899), p. 127-133.
- U. S. Commissioner of Fisheries:** [Investigations of the shad fisheries of Florida.] Report 1884 (1886), p. XLI.
- Way, D. L.:** [The shad fisheries of Lake Monroe, Fla.] Bulletin, 1884 (1884), vol. IV, p. 318.

Georgia.

- Stevenson, Charles Hugh:** [The shad fisheries of Georgia in 1896.] Report, 1898 (1899), p. 133-140.
- Yarrow, Harry Crécy:** [The great decrease of the shad fishery of Georgia.] Report, 1872 and 1873 (1874), p. 396-398.

Maine.

- Stevenson, Charles Hugh:** [The shad fisheries of Maine in 1896.] Report, 1898 (1899), p. 263-269.

Maryland.

- Babcock, William C.:** Report of shad operations conducted at Fort Washington, Maryland . . . Report, 1883 (1885), p. 1035-1039; 1884 (1885), p. 189-192, plates.
- Donnelly, Frank L.:** [The shad fisheries near Havre de Grace, Md.] Bulletin, 1884 (1884), vol. IV, p. 319.
- Stevenson, Charles Hugh:** [The shad fisheries of Maryland in 1896.] Report, 1898 (1899), p. 192-217.

Massachusetts.

- Blackford, Eugene Gilbert:** [Shad in October.] Bulletin, 1885 (1885), vol. V, p. 101.
- [Shad appearance.] Bulletin, 1886 (1887), vol. VI, p. 136.
- Edwards, Vinal N.:** [Shad, pollock, bill-fish, etc., at Cape Cod.] Bulletin, 1886 (1887), vol. VI, p. 454-455.
- Stevenson, Charles Hugh:** [The shad fisheries of Massachusetts in 1896.] Report, 1898 (1899), p. 260-263.

New Hampshire.

- Laighton, Cedric:** The capture of shad at Isles of Shoals, New Hampshire. Bulletin, 1881 (1882), vol. I, p. 421. F18-54

New York.

- Blackford, E. G.:** Catch of shad in the Hudson River for 1885. Bulletin, 1886 (1887), vol. VI, p. 294. F18-595
 — [Early shad.] Bulletin, 1886 (1887), vol. VI, p. 137.
Mather, Fred.: The shad fisheries of the Hudson. Bulletin, 1885 (1885), vol. V, p. 177-180. F18-398
New York States Agricultural Society, Transactions: [Shad on Staten Island in 1842.] Bulletin, 1886 (1887), vol. VI, p. 404-405.
Stevenson, Charles Hugh: [The shad fisheries of New York in 1896.] Report, 1898 (1899), p. 242-249.

North Carolina.

- U. S. Commissioner of Fisheries:** [North Carolina shad fishery.] Report, 1905 (1907), p. 40-41.
Worth, S. G.: [Shad in North Carolina.] Bulletin, 1886 (1887), vol. VI, p. 320.
Yarrow, Harry Crécy: Notes on the shad as observed at Beaufort Harbor, North Carolina and vicinity. Report, 1872 and 1873 (1874), p. 452-456. F15-112

Pennsylvania.

- Fowler, Gilbert:** [Shad fishing in the Susquehanna—what Mr. Gilbert Fowler knows about it.] Bulletin, 1881 (1882), vol. I, p. 367-368.
Osterhout, P. M.: [Shad—How they were caught in ye olden days—The fishery companies—The reason shad do not now inhabit the upper waters of the Susquehanna.] Bulletin, 1881 (1882), vol. I, p. 364-366.
Stevenson, Charles Hugh: [The shad fisheries of Pennsylvania in 1896.] Report, 1898, p. 223-227.
Townsend, Charles Haskins: [Shad fisheries of Pennsylvania.] Report, 1901 (1902), p. 150.
Willis, H.: Shad fisheries of the Susquehanna River fifty-six years ago. Bulletin, 1881 (1882), vol. I, p. 261-263. F18-49
Wright, Harrison: On the early shad of the north branch of the Susquehanna River. Report, 1881 (1884), p. 619-642. F16-334
Wyoming Historical and Geological Society, Wilkesbarre, Pa.: Report of a committee of the Wyoming historical and geological society on the early shad fisheries of the north branch of the Susquehanna River. Bulletin, 1881 (1882), vol. I, p. 352-379. F11-218

Rhode Island.

- Cory, E. J., and Vinal N. Edwards:** [Shad caught in November.] Bulletin, 1886 (1887), vol. VI, p. 455.
Stevenson, Charles Hugh: [The shad fisheries of Rhode Island in 1896.] Report, 1898 (1899), p. 258-260.

South Carolina.

- Baird, Spencer F.:** [Investigations of the shad fisheries of South Carolina in 1884.] Report, 1884 (1886), p. XLI.
Ferguson, Thomas B.: Extracts from a report of investigations of the shad fisheries and rivers south of Charleston, S. C., with a view to establishing stations for artificial propagation. Bulletin, 1884 (1884), vol. IV, p. 244-248. F18-299
Stevenson, Charles Hugh: [The shad fisheries of South Carolina in 1896.] Report, 1898 (1899), p. 140-154.
Wood, William Maxwell: Report of an examination of the shad fisheries in Georgetown, S. C. Bulletin, 1884 (1884), vol. IV, p. 140-141. F18-249
 — Reconnaissance of the shad fisheries of Winyaw Bay and its tributaries, by the steamer *Fish Hawk*. Bulletin, 1884 (1884), vol. IV, p. 242-243. F18-298

Virginia.

- Stevenson, Charles Hugh:** [The shad fisheries of Virginia in 1896.] Report, 1898 (1899), p. 176-192.

Atlantic coast.

- Smith, Hugh McCormick:** [Shad fisheries of the Atlantic coast.] Report, 1896 (1898), p. 130; 1897 (1898), p. CXXV-CXXX.
Stevenson, Charles Hugh: The shad fisheries of the Atlantic coast of the United States. Report, 1898 (1899), p. 101-269. Doc. 403 issued Mar. 17, 1899. F11-115

Middle Atlantic States.

Smith, Hugh McCormick: [Shad fisheries of the Middle Atlantic States.] Bulletin, 1894 (1895), vol. XIV, p. 450-452.

Pacific coast.

Smith, Hugh McCormick: [Shad fishery of the Pacific coast.] Bulletin, 1895 (1896), vol. XV, p. 416-427.

Chesapeake Bay.

U. S. Commissioner of Fisheries: [Shad and alewife fisheries of Chesapeake Bay.] Report, 1910 (1911), p. 27; 1913 (1914), p. 65-66.

Gulf of Mexico.

U. S. Bureau of Fisheries: Letters referring to the presence of shad in the river tributary to the Gulf of Mexico. [From John T. Knight, Isaac W. Pollard, George W. Lawrence, Will E. Turner, and Holmes A. Pattison.] Report, 1872 and 1873 (1874), p. 391-395. F16-64

Ohio River.

Applegate, J. P.: [Shad in the Ohio River.] Bulletin, 1886 (1887), vol. VI, p. 141.

Potomac River.

Chapman, Pearson: Habits of the shad and herring as they appear in the Potomac River to one who has watched them for fifty years. Bulletin, 1884 (1884), vol. IV, p. 61-64. F13-81

Harris, Gwynn: Report upon the shad and herring fisheries of the Potomac River for 1882-1886. Bulletin, 1883 (1883), vol. III, p. 477; 1884 (1884), vol. IV, p. 13, 221; 1885 (1885), vol. V, p. 192; 1886 (1887), vol. VI, p. 202. F13-202

Lennurt, J. T.: Catch of spawning shad in the Potomac, above Georgetown. Bulletin, 1883 (1883), vol. III, p. 440. F18-171

Smith, Hugh McCormick: [Shad fisheries of the Potomac.] Report, 1889-1891 (1893), p. 182.

Waller, Withers: [Shad in the Potomac, 1854 to 1881.] Bulletin, 1884 (1884), vol. IV, p. 361-362.

Mississippi River.

McDowell, W. W.: [Shad in the Mississippi at Memphis.] Bulletin, 1886 (1887), vol. VI, p. 315-316.

SHARK: NANTUCKET.

Gardner, Albert A.: [Shark fishing at Nantucket.] Bulletin, 1886 (1887), vol. VI, p. 460-461.

SPOT.

Collins, Joseph William: [The spot fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. VII, p. 533-538.

SQUETEAGUE.

Collins, Joseph William: [The squeteague or "trout" fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. VII, p. 527-533.

STURGEON.

General.

Hovey, H. C.: The sturgeon fishery. Bulletin, 1884 (1884), vol. IV, p. 346-348. F13-114

Rathbun, Richard: [Report upon the inquiry respecting the sturgeon fisheries.] Report, 1888-89 (1892), p. LXXXIX-XCIII.

Ryder, John Adam: The sturgeons and sturgeon industries of the eastern coast of the United States, with an account of experiments bearing upon sturgeon culture. ["Literature relating to the sturgeon:" p. 279-280.] Bulletin, 1888 (1890), vol. VIII, p. 231-328, pl. XXXVI-LIX. Doc. 143 issued Mar. 25, 1891. F11-324

U. S. Commissioner of Fisheries: [Passing of the sturgeon.] Report, 1913 (1914), p. 66-67.

Delaware.

- Cobb, John Nathan: The sturgeon fishery of Delaware River and Bay. Report, 1899 (1900), p. 369-380, pls. *Doc. 429 issued Aug. 25, 1900.* F11-110
 U. S. Commissioner of Fisheries: [Sturgeon fishery of the Delaware River.] Report, 1914 (1915), p. 23.

Florida.

- Townsend, Charles Haskins: [The sturgeon fishery of Florida.] Report, 1901 (1902), p. 155 incl. tables.
 U. S. Commissioner of Fisheries: [Sturgeon fishery in Florida.] Report, 1915 (1917), p. 76.

Pacific coast.

- Smith, Hugh McCormick: [Sturgeon and sturgeon fishery.] Bulletin, 1894 (1895), vol. XIV, p. 275-279.

Columbia River.

- Wilcox, William A.: [Sturgeon fishery of the Columbia River.] Report, 1893 (1895), p. 250-253.

SWORDFISH.

General.

- Goode, George Brown: Materials for a history of the swordfishes. Report, 1880 (1883), p. 289-294, XXIV pl. *Doc. 51 issued June 3, 1883.* F16-284
 ——— The swordfish fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. IV, p. 315-326.
 U. S. Commissioner of Fisheries: [Swordfish fishery.] Report, 1915 (1917), p. 62-63.

New England.

- Clark, A. Howard: Notes on the New England fishery for the swordfish during the season of 1884. Report, 1884 (1886), p. 233-239. F17-186

TILEFISH.

- Bumpus, Herman Carey: The reappearance of the tilefish. Bulletin, 1898 (1899), vol. XVIII, p. 321-333. *Doc. 416 issued Oct. 30, 1899.* F12-32
 Collins, Joseph William: Report upon a cruise made to the tilefish ground in the smack *Josie Reeves*, September, 1882. Bulletin, 1882 (1883), vol. II, p. 301-310. F18-107
 ——— [Tilefish fishery.] Report, 1886 (1889), p. 702.
 Smith, Hugh McCormick: [Tilefish fishery.] Report, 1903 (1905), p. 84-85.
 U. S. Commissioner of Fisheries: [Tilefish fisheries.] Report, 1881 (1884), p. XL.
 ——— [Investigation of the alleged destruction of the tilefish.] Report 1882 (1884), p. LII.

TROUT: ALASKA.

- Bower, Ward Taft, and Henry D. Aller: Alaska fisheries and fur industries in 1914. (Trout fishery: p. 64-65.) Appendix IX, Report, 1914 (1915), 89 p. *Doc. 819 issued Sept. 23, 1915.* F12-388
 Bower, Ward Taft, and Clifford H. Fassett: [Noteworthy catch of Dolly Varden trout: p. 65-66.] In Alaska fisheries and fur industries in 1913, by Barton Warren Evermann. Appendix II, Report, 1913 (1914). *Doc. 797 issued Aug. 29, 1914.* F12-388
 Chamberlain, Frederick M., and Ward Taft Bower: [Trout fishery: p. 71-72.] In Fishery and fur industries of Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.* F12-388
 Cobb, John Nathan, and Frederick M. Chamberlain: [The trout fishery: p. 63-64.] In Alaska fisheries and fur industries in 1911, by Barton Warren Evermann. Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388

TUNA: CALIFORNIA.

- Smith, Hugh McCormick: [The tuna fishery of California.] Report, 1914 (1915), p. 35-37.

WHITEFISH.

- Evermann, Barton Warren, and Hugh McCormick Smith: The whitefishes of North America. Report, 1894 (1896), p. 283-324, illus., pls. *Doc. 323 issued Feb. 6, 1894.* F11-189

- Howell, D. Y.:** Injuries caused by gill nets to whitefish. Bulletin, 1885 (1885), vol. V, p. 324. F18-742
- McQueen, Alexander:** [Large whitefish.] Bulletin, 1886 (1887), vol. VI, p. 138.
- U. S. Bureau of Fisheries:** Miscellaneous notes and correspondence relative to the whitefish. A. The whitefish of the Great Lakes [letters from George Barnston, John W. Kerr, Peter Kiel]. B. The whitefish of eastern Maine and New Brunswick, by Charles Lanman. C. New species of *Argyrosomus* and *Coregonus*, by James W. Milner. Report, 1872 and 1873 (1874), p. 79-89. F15-92

WHITING.

- Nye, Willard:** [Appearance of whiting or frost-fish.] Bulletin, 1886 (1887), vol. VI, p. 137.

CANADA.

ALEWIFE.

- Lanman, Charles:** The shad and gaspereau or alewife of New Brunswick and Nova Scotia. Report, 1872-73 (1874), p. 461-462. F16-66

HERRING.

General.

- Joncas, L. Z.:** The fisheries of Canada. Bulletin, 1893 (1894), vol. XIII, p. 341-348. Doc. 270 issued June 28, 1894. F12-183

Labrador.

- Stearns, W. A.:** [Herring.] Bulletin, 1885 (1885), vol. V, p. 17-19.

Newfoundland.

- U. S. Bureau of Fisheries:** [Newfoundland herring fishery: p. 50-51.] Report, 1911 (1913).

- Wilcox, W. A.:** Notes on the frozen herring trade with Newfoundland and the Bay of Fundy during the winter of 1886-87. Bulletin, 1887 (1889), vol. VII, p. 71-73. F18-655

MACKEREL.

General.

- Joncas, L. Z.:** The fisheries of Canada. Bulletin, 1893 (1894), vol. XIII, p. 341-348. Doc. 270 issued June 28, 1894. F12-183

Labrador.

- Stearns, W. A.:** [The Labrador mackerel fisheries.] Bulletin, 1885 (1885), vol. V, p. 25-26.

SALMON.

- Habersham, William Ney A.:** Notes on the use of the male salmon hook and the run of 1883. Bulletin, 1884 (1884), vol. IV, p. 52. F18-215

- Witcher, W. F.:** [Decline of the Canadian salmon fisheries.] Bulletin, 1884 (1884), vol. IV, p. 363.

SHAD.

- Lanman, Charles:** The shad and gaspereau or alewife of New Brunswick and Nova Scotia. Report, 1872 and 1873 (1874), p. 461-462. F16-66

SOUTH AMERICA: SHAD.

- Fishing for shad in South American waters.** Bulletin, 1882 (1883), vol. II, p. 138. F18-92

EUROPE.

BRISLING: NORWAY.

- Friele, M.:** [The Norwegian brisling fishery.] Report, 1877 (1879), p. 730-731.

CAPELAN: NORWAY.

- Sars, George Ossian:** Report submitted to the Department of the Interior on the practical and scientific investigations of the Finmark capelan-fisheries, made during the spring of the year 1879. (Tr. by Herman Jacobson.) Report, 1880 (1883), p. 167-187. F16-299

CARP.

Austria.

The carp trade in Austria. Bulletin, 1884 (1884), vol. IV, p. 308.

Germany.

The carp fisheries in the Peitz Lakes. Report, 1878 (1880), p. 675-678. F16-176

EEL: SWEDEN.

Lundberg, Rudolph: Eel-fishing with so-called "hommer" (a species of fish-pot) on the Baltic coast of Sweden and in the Sound. Report, 1883 (1885), p. 415-430, pl., illus. F17-33

—— [Eel fisheries of Sweden.] Report, 1884 (1886), p. 380-384.

FLOUNDERS: SWEDEN.

Lundberg, Rudolph: [Flounder fisheries of Sweden.] Report, 1884 (1886), p. 384-386.

HALIBUT.

Iceland.

Collins, J. W.: On the abundance of halibut near Iceland. Bulletin, 1884 (1884), vol. IV, p. 463-464. F18-362

—— The Icelandic halibut fishery: An account of the voyages of three Gloucester schooners to the fishing grounds near the north coast of Iceland. Report, 1884 (1886), p. 289-300. F17-128

Garde, Aug.: [Halibut fisheries of Iceland.] Report, 1884 (1886), p. 301.

Thorsteinson, Árni Bjarnason: American halibut-fisheries near Iceland. Bulletin, 1885 (1885), vol. V, p. 429-432. F18-496

U. S. Commissioner of Fisheries: [Iceland halibut fishery.] Report, 1884 (1886), p. XL-XLI; 1885 (1887), p. LI-LII.

Norway.

Juel, Niels: [Norwegian halibut fisheries.] Bulletin, 1885 (1885), vol. V, p. 89-90.

HERRING.

Germany.

Dantziger: The first five years of the Emden joint-stock herring-fishery association. Report, 1877 (1879), p. [751]-776. F16-115

Great Britain.

Carr, T. F. Robertson: Notes on the Scotch herring fisheries. Bulletin, 1884 (1884), vol. IV, p. 60, 431. F18-221, F18-356

Collins, J. W.: Notes on the English herring and mackerel fisheries, and the methods of curing. Bulletin, 1885 (1885), vol. V, p. 40. F18-375

The Scotch herring fisheries in 1882 [and 1883]. Bulletin, 1882 (1883), vol. II, p. 117-118; 1883 (1884), vol. IV, p. 472. F18-87

Simonsen, Carl: The herring fisheries near the Isle of Man. Bulletin, 1886 (1887), vol. VI, p. 152-155. F18-563

Smith, Hugh McCormick: Observations on the herring fisheries of England, Scotland, and Holland. Bulletin, 1902 (1904), vol. XXII, p. 1-16, illus., 2 pl. Doc. 511 issued Feb. 4, 1903. F12-55

Southwell, Thomas: Notes on the English herring fishery of 1882. Bulletin, 1883 (1883), vol. III, p. 465-466. F12-390

—— [Note on the herring fisheries of Great Britain.] Bulletin, 1885 (1885), vol. V, p. 87.

Iceland.

Finn, W.: The Iceland herring fisheries. Report, 1879 (1882), p. 493-496. F17-5

Trølle, C.: [The Iceland herring fisheries.] Report, 1880 (1883), p. 84-87.

Netherlands.

Smith, Hugh McCormick: Observations on the herring fisheries of England, Scotland, and Holland. Bulletin, 1902 (1904), vol. XXII, p. 1-16, illus., 2 pl. Doc. 511 issued Feb. 4, 1903. F12-55

Norway.

- Boeck, Axel, i. e. Jonas Axel:** The Norwegian herring-fisheries. Report, 1873-74 and 1874-75 (1876), p. 97-122. F16-7
- Buch, Sophus Andreas:** Spawning of spring herring near Norway. Bulletin, 1885 (1885), vol. V, p. 297-300. F18-447
- Friele, M.:** An account of the fisheries of Norway in 1877. Report, 1877 (1879), p. 707-739. F16-113
- Jensen, Olaf Scheveland:** Report on the practical and scientific investigations of the spring herring fisheries during the year 1880, submitted to the Department of the interior. Report, 1880 (1883), p. 127-161. F16-288
- New contributions to the herring question.** The dispute between Axel Boeck and Ossian Sars regarding the Norwegian summer-herring; Sars' recent observations and his theory on the migrations of the herrings. Report, 1873-74 and 1874-75 (1876), p. 195-211. F16-12
- [The Norwegian herring fisheries in 1883].** Report, 1883 (1885), p. 366-367.
- Sars, George Ossian:** [Herring fisheries of the Loffoden Islands.] Report, 1877 (1879), p. 637-661.
- Ström, Boye:** [The herring fisheries of the Loffoden Islands and in the district of Vesterdaalen.] Report, 1884 (1886), p. 338-343.

Sweden.

- Ljungman, Axel Vilhelm:** Preliminary report for 1873-74 on the herring and herring-fisheries on the west coast of Sweden. Report, 1873-74 and 1874-75 (1876), p. 125-168. F16-8
- [Brief review of our present knowledge of the mode of life and the migration of the herring, and their physical and biological causes.] Report, 1878 (1880), p. 160-220.
- The great Bohuslän herring fisheries. Report, 1878 (1880), p. 221-239. F16-158
- Contributions toward solving the question of the secular periodicity of the great herring fisheries. Report, 1879 (1882), p. 497-503. F17-6
- Contributions toward a more correct knowledge of the herring's mode of life. Report, 1879 (1882), p. 505-513. F17-7
- The Bohuslän sea fisheries and their future. Report, 1880 (1883), p. 89-98. F16-290
- What should be done by the government with regard to the great Bohuslän herring fisheries. A memorial addressed to the Council of state and the head of the Royal civil department [of Sweden]. Report, 1880 (1883), p. 99-126. F16-291
- The great herring fisheries considered from an economical point of view. Report, 1883 (1885), p. 341-357. F17-30
- Special results of the investigations relating to the herring and herring fisheries on the west coast of Sweden made during the years 1873-1883. Report, 1883 (1885), p. 729-745. F17-34
- The future of the herring fisheries on the coast of Bohuslän. Report, 1884 (1886), p. 399-409. F17-132
- Martin, S. J.:** The American purse-seine successful in the herring fisheries of Sweden. Bulletin, 1883 (1883), vol. III, p. 161.
- Yhlen, Gerhard von:** [The herring fishery of the Län Göteborg and Bohus in the year 1877.] Report, 1877 (1879), p. 742-749.

Baltic.

- Widegren, Hjalmar:** [The herring fishery of the Baltic.] Report, 1878 (1880), p. 124-135.

White Sea.

- Schultz, Alexander:** [The herring fisheries in the White Sea.] Report, 1873-74 and 1874-75 (1876), p. 37-40.

MACKEREL.

Great Britain.

- Green, William Spotswood:** Notes on the Irish mackerel fisheries. Bulletin, 1893 (1894), vol. XIII, p. 357-360, pl. 13-16. Doc. 272 issued June 16, 1894. F12-183

Norway.

- Friele, M.:** [Mackerel fishery in Norway in 1877.] Report, 1877 (1879), p. 731-733.
- Sars, George Ossian:** [Mackerel fishery of Norway.] Report, 1877 (1879), p. 667-674.

Sweden.

Yhlen, Gerhard von: Report of the sea-fisheries of the Län Göteborg and Bohus in the year 1877. Report, 1877 (1879), p. 741-750. F16-114

Baltic.

Möbius, Karl August: [Scientific investigations upon the fishes profitable to the fisheries.] Report, 1879 (1882), p. 534-548.

SALMON.

France.

Jerrell, H. P.: Concerning the salmon fisheries of Bretagne, France, and the need of fish-ways and restrictive legislation. Bulletin, 1884 (1884), vol. IV, p. 185-186. F18-276

Germany.

Benecke, B.: Observations on salmon in German Rivers. Bulletin, 1886 (1887), vol. VI, p. 119-122. F18-556

Hoek, Paulus Peronius Cato: Propagation and protection of the Rhine salmon. Bulletin, 1908 (1910), vol. XXVIII, p. 817-829, diags. *Doc. 682 issued April, 1910.* 10-35437

Sweden.

Lundberg, Rudolph: [Salmon fisheries of Sweden.] Report, 1884 (1886), p. 386-387.
Sweden, Statens Fiskeriadministration: Improvement in the salmon fisheries of Sweden. Extract from the Report of the Royal intendant of fisheries. Report, 1872 and 1873 (1874), p. 166-167. F15-95

Trybom, Filip: Salmon fisheries of Halland, Sweden, especially in the River Viskan. Bulletin, 1886 (1887), vol. VI, p. 104-105. F18-549

Widegren, Hjalmar: [Salmon fisheries of Sweden.] Report, 1873-74 and 1874-75 (1876), p. 32.

Baltic.

Fiedler: The migrations of salmon (*Salmo salar* L.) in the Baltic. Bulletin, 1885 (1885), vol. V, p. 185-188. F18-401

White Sea.

Schultz, Alexander: [Salmon fisheries of the White Sea.] Report, 1873-74 and 1874-75 (1876), p. 40-43.

SARDINE.

Denmark.

The sardine fisheries. Report, 1880 (1883), p. 163-165. F16-298

France.

France, Moniteur de la Pisciculture: [Sardine fisheries in France.] Bulletin, 1886 (1887), vol. VI, p. 408-409.

SHARK.

Iceland.

Garde, Aug.: [Shark fisheries of Iceland.] Report, 1884 (1886), p. 305.
 The Iceland shark-fisheries. Bulletin, 1885 (1885), vol. V, p. 301-304. F18-448

Norway.

[The Norwegian shark fisheries in 1883.] Report, 1883 (1885), p. 362.
Strøm, Boye: [Norwegian shark fisheries in 1880.] Report, 1884 (1886), p. 349; 1885 (1887), p. 219; 1886 (1889), p. 1059.

SPRAT: SWEDEN.

Yhlen, Gerhard von: [Sprat fishery in the Län of Göteborg and Bohus in the year 1877.] Report, 1877 (1879), p. 749.

JAPAN: CARP.

Japan. Bureau of Agriculture: [Carp fisheries of Japan.] Bulletin, 1893 (1894), vol. XIII, p. 428.

HAWAIIAN ISLANDS.

MULLET.

Moser, Jefferson F.: [Mullet fishery of the Hawaiian Islands.] Report, 1897 (1898), p. CLXIX-CLXX.

SHARK.

Cobb, John Nathan: [Shark fisheries of the Hawaiian Islands.] Report, 1901 (1902), p. 421-422.

FISHERY PRODUCTS.

PRESERVATION OF PRODUCTS.

BAIT.

Collins, Joseph William: Inauguration of the frozen-herring trade. Bulletin, 1884 (1884), vol. IV, p. 81-83. F13-85

— Some reasons why the fishermen of Nova Scotia prefer to use salt clams (*Mya arenaria*) for bait in the bank hand-line cod fisheries. Bulletin, 1887 (1889), vol. VII, p. 425-428 incl. tables. F18-679

Smith, Hugh McCormick: [Method of preparing bait used in the French sardine fishery.] Bulletin, 1901 (1902), vol. XXI, p. 8-10.

Waage, Peter: Preservation of bait. Bulletin, 1885 (1885), vol. V, p. 200-201. F18-407

COLLAGEN.

Cobb, J. N.: Pacific cod fisheries. (Glue from codfish skins: p. 71.) Report, 1915 (1917), 111 p. *Doc. 830 issued Oct. 23, 1916.* F16-191

Green, Erik H.: The chemical composition of the subdermal connective tissue of the ocean sunfish. Bulletin, 1899 (1901), vol. XIX, p. 321-324. *Doc. 449 issued Aug. 31, 1900.* F12-84

Green, Erik H., and Ralph Winfred Tower: The organic constituents of the scales of fish. Bulletin, 1901 (1902), vol. XXI, p. 97-102. *Doc. 496 issued May 26, 1902.* F12-272

White, George F.: Fish isinglass and glue. Appendix IV, Report, 1917 (1919). *Doc. 852 issued Aug. 27, 1917.* F17-249

FERTILIZER.

Atwater, Wilber Olin: Report of the analysis of a sample of fish guano made from salmon offal, by Mr. Joseph Spratt, of Victoria, British Columbia. Bulletin, 1884 (1884), vol. IV, p. 238. F13-103

— [Menhaden and other fish and their products as related to agriculture.] Report, 1887 (1891), p. 194-267.

Bower, Ward Taft, and Henry D. Aller: Alaska fisheries and fur industries in 1914. (Fertilizer from fish products: p. 62-64.) Appendix IX, Report, 1914 (1915), p. 1-89. *Doc. 819 issued Sept. 23, 1915.* F12-388

Bower, Ward Taft and H. C. Fassett: [Fertilizer from canning waste: p. 134-135]. In Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913, (1914), p. 37-139. F12-388

Cobb, J. N.: The salmon fisheries of the Pacific coast. (Refuse from canneries used for fertilizer: p. 66-67.) Report and special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393

— Pacific cod fisheries. (Refuse for fertilizer: p. 71.) Appendix IV, Report, 1915 (1917), 111 p. *Doc. 830 issued Oct. 23, 1916.* F16-191

Cobb, J. N., and H. M. Kutchin: The fisheries of Alaska in 1906. (Utilization of food-fishes for fertilizer: p. 54-56.) Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued May 16, 1907.* 7-35263

Gallup, B. Frank: Catching dogfish for oil and guano. Bulletin, 1882 (1883), vol. II, p. 246. F18-99

Greer, Rob Leon: The menhaden industry of the Atlantic coast. Appendix III, Report, 1914 (1915), 27 p., 7 pl. *Doc. 811, issued Apr. 7, 1915.* F15-39

— The menhaden industry of the Atlantic coast. (Selected bibliography of papers relating to fish fertilizers: p. 30.) 30 p., VII pl. *Doc. 811 reprinted with additions Oct. 18, 1917.* F17-263

Lawrence-Hamilton, J.: [Utilization of waste fish and fish products.] Bulletin, 1893 (1894), vol. XIII, p. 305-306.

- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1909. (The fertilizer question: p. 49-50.) Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263
- The fisheries of Alaska in 1910. (The fertilizer question: p. 47-50.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263
- Moser, Jefferson F.:** [Guano from herring, in Alaska.] Bulletin, 1898 (1899), vol. XVIII, p. 122-123.
- Smiley, Charles Wesley:** The extent of the use of fish guano as fertilizer. Report, 1881 (1884), p. 663-695. F16-336
- Stevenson, Charles Hugh:** Aquatic products in art and industries. Fish oils, fats, and waxes. Fertilizers from aquatic products. Report, 1902 (1904), p. 177-279, pls. *Doc. 536 issued Sept. 26, 1903.* F11-3
- [Use of fish refuse as manure.] Bulletin, 1886 (1887), vol. VI, p. 317.
- Wilcox, William A.:** [Manufacture of guano at Killisnor, Alaska.] Report, 1893 (1895), p. 303.

GLUE.

- Clark, A. Howard:** [Utilization of fish skins for glue.] In The fisheries and fishery industries of the United States. 1887. Sec. II, pt. IV, p. 149-150.
- White, George F.:** Fish isinglass and glue. Appendix IV, Report, 1917 (1919), 15 p. *Doc. 852 issued Aug. 27, 1917.* F17-249

ICHTHYLEPIDIN.

- Green, Erik H., and Ralph Winfred Tower:** The organic constituents of the scales of fish. Bulletin, 1901 (1902), vol. XXI, p. 97-102. *Doc. 496 issued May 26, 1902.* F12-272

ISINGLASS.

- Anderssen, Joakim:** [Making isinglass from fish-maws.] Report, 1878 (1880), p. 70.
- Knudsen, Henrik:** Some facts concerning isinglass. Bulletin, 1885 (1885), vol. V, p. 295-297. F18-446
- Schultz, Alexander:** [Manufacture of isinglass.] Report, 1873-74 and 1874-75 (1876), p. 86-87.
- Smith, Hugh McCormick:** [Utilization of weakfish sounds.] Report, 1896 (1898), p. 144.
- White, George F.:** Fish isinglass and glue. Appendix IV, Report, 1917 (1919), 15 p. *Doc. 852 issued Aug. 27, 1917.* F17-249

OIL.

- Atwood, Nathaniel E.:** Unexplained variations in the yield of oil from cod livers. Bulletin, 1883 (1883), vol. III, p. 431-432. F18-165
- Baird, Spencer Fullerton:** [Fish as oil.] Report, 1886 (1889), p. 149-150.
- Bower, Ward Taft, and Henry D. Aller:** Alaska fisheries and fur industries in 1914. (Oil from fishery products: p. 62-64.) Appendix IX, Report, 1914 (1915), 89 p. *Doc. 819 issued Sept. 23, 1915.* F12-388
- Bower, Ward Taft, and Clifford H. Fassett:** [Oil from canning waste: p. 134-135.] In Alaska fisheries and fur industries in 1913, by B. W. Evermann. Appendix II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388
- Cobb, John Nathan:** [Oil from the refuse of the sturgeon.] Report, 1899 (1900), p. 377.
- Pacific cod fisheries. (Cod liver oil: p. 70-71.) Report, 1915 (1917), 111 p. *Doc. 830 issued Oct. 23, 1916.* F16-191
- De Blois, E. T.:** The origin of the menhaden industry. Bulletin, 1881 (1882), vol. I, p. 46-51. F12-333
- Friedlaender, Oscar O.:** [Yield of menhaden oil per 1,000 fish.] Bulletin, 1883 (1883), vol. III, p. 459.
- Friele, M.:** [Preparation of the oil from the cod.] Report, 1877 (1879), p. 717-718.
- Gallup, B. Frank:** Catching dogfish for oil and guano. Bulletin, 1882 (1883), vol. II, p. 246. F18-99
- [Oil and guano from drumfish.] Bulletin, 1883 (1885), vol. III, p. 462.
- Goode, George Brown:** The natural and economical history of the American menhaden. Report, 1877 (1879), 529 p., pl. I-XXXI. F12-236
- Goode, G. Brown, and A. Howard Clark:** [Methods of manufacturing menhaden oil.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. V, p. 343-345.
- [History of the menhaden oil industry.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. V, p. 364-370.

- Greer, Rob Leon:** The menhaden industry of the Atlantic coast. Appendix III, Report, 1914 (1915), 27 p., VII pls. (incl. front.). *Doc. 811 issued Apr. 7, 1915.* F15-39
- The menhaden industry of the Atlantic coast. 30 p., VII pl. *Doc. 811 reprinted with additions Oct. 18, 1917.* F17-263
- The Iceland shark fisheries.** Bulletin, 1885 (1885), vol. V, p. 301-304. F18-448
- Jordan, David Starr, and Charles H. Gilbert:** [Making oil from salmon heads.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. XII, p. 750.
- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1910. (Use of herring in the manufacture of oil: p. 47-50.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.*
- Moser, Jefferson F.:** [Extracting oil from herring in Alaska.] Bulletin, 1898 (1899), vol. XVIII, p. 122-123.
- Schieffelin, W. H., & Co.:** Unexplained variations in the yield of oil from cod livers. Bulletin, 1883 (1883), vol. III, p. 431. F18-164
- Schultz, Alexander:** [Oil from sturgeon, herring, and lampreys.] Report, 1873-74 and 1874-75 (1876), p. 89-90.
- Smith, Hugh McCormick:** [Menhaden for oil and guano.] Bulletin, 1895 (1896), vol. XV, p. 285-290.
- Sparks, George L.:** [Porpoise oil.] Bulletin, 1885 (1885), vol. V, p. 415.
- Stearns, Winfrid Alden:** [Cod liver oil.] Bulletin, 1885 (1885), vol. V, p. 12.
- Stevenson, Charles Hugh:** Aquatic products in arts and industries. Fish oils, fats, and waxes. Fertilizers from aquatic products. Report, 1902 (1904), p. 177-279, pls. *Doc. 536 issued Sept. 26, 1903.* F11-3
- [Oils from blackfish.] Report, 1902 (1904), p. 206-208.
- True, Frederick William:** [Porpoise oil.] Bulletin, 1885 (1885), vol. V, p. 5.
- [Shark livers for oil.] Bulletin, 1885 (1885), vol. V, p. 301-302.
- U. S. Bureau of Fisheries:** [Fish oils.] Bulletin, 1888 (1890), vol. VIII, p. 51.
- Wallem, Frederick Meltzer:** Export of fish oil from Norway, 1878-1882. Bulletin, 1883 (1883), vol. III, p. 240, 382. F18-129; F18-340
- White, George, and Adrian Thomas:** Properties of fish and vegetable oil mixtures. Bulletin, 1912 (1913), vol. XXXII, p. 183-198, illus., *Doc. 785 issued Feb. 18, 1914.* F14-8
- Wilcox, William A.:** [Manufacture of herring oil.] Report, 1893 (1895), p. 303.

SKINS.

- Baird, S. F.:** [Utilization of the skins of fishes.] Report, 1886 (1889), p. 150.
- Field, Irving A.:** Utilized fishes and their relation to the fishing industries (Use of the skin of the dogfish: p. 41-42.) Report and special papers, 1916 (1917), 50 p., pl. *Doc. 622 issued Sept. 10, 1907.* 7-35352
- Stevenson, Charles Hugh:** [Utilization of the skins of sharks, rays, dogfish, and sturgeon.] Report, 1902 (1904), p. 281-352.
- U. S. Commissioner of Fisheries:** [Aquatic sources of leather.] Report, 1917 (1919), p. 50-51.
- [Development of aquatic resources of leather.] Report, 1918, (1920), p. 37-38.

STOCK FEED.

- Hinckley, Isaac:** The fish-eating cows of Provincetown, Mass. Bulletin, 1881 (1882) vol. I, p. 134. F18-33
- Stevenson, C. H.:** [Fish meal.] Bulletin, 1898 (1899), vol. XVIII, p. 551-552.
- U. S. Commissioner of Fisheries:** [Utilization of fish waste and waste fish.] Report, 1918 (1920), p. 34-35.

PRODUCTS AS FOOD.

PREPARATION.

General.

- Stevenson, Charles H.:** The preservation of fishery products for food. Bulletin, 1898 (1899), p. 335-563, VII pl. *Doc. 417 issued Dec. 12, 1899.* 5-5014

Alive.

- Borne, Max von dem:** Wooden tank for the transportation of living fish. Bulletin, 1884 (1884), vol. IV, p. 168, illus. F18-264
- Mead, Albert Davis:** A new principle of aquiculture and transportation of live fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 759-780, pl. XC-C, diags. *Doc. 676 issued April, 1910.* 10-35565

Pachaly's car for transporting fish. Bulletin, 1881 (1882), vol. I, p. 207-208. F18-40
 Stevenson, Charles Hugh: [Preserving fishery products alive.] Bulletin, 1898
 (1899), vol. XVIII, p. 339-357.

Transportation of live fish. Bulletin, 1882 (1883), vol. II, p. 95-102, illus. F18-80

Anchovies.

Stevenson, Charles Hugh: [Anchovie pastes and sardine butter.] Bulletin, 1898
 (1899), vol. XVIII, p. 552-553.

Babracoted.

Quelch, J. J.: [Babracoted fish in British Guiana.] Bulletin, 1893 (1894), vol. XIII,
 p. 238.

Bloaters.

Earll, R. Edward: [Preparation of bloater herring at Eastport.] Bulletin, 1887
 (1889), vol. VII, p. 273.

— [Method of preparation of the bloater-herring.] In The fisheries and fishery
 industries of the United States. 1887. Sec. V, vol. I, pt. VI, p. 486-488.

Smith, Hugh McCormick: [Cured herring.] Bulletin, 1902 (1904), vol. XXII, p.
 3-4.

Canning.

Adams, Emma Hildreth: Salmon canning in Oregon. Bulletin, 1885 (1885), vol.
 V, p. 362-365. F18-480

Alexander, Alvin B.: [Salmon canning industry of the Pacific coast.] Report, 1904
 (1905), p. 141-146.

Bower, Ward Taft, and Henry D. Aller: Alaska fisheries and fur industries in 1914.
 (Canning: p. 29-37.) Appendix IX, Report, 1914 (1915), 89 p. *Doc. 819 issued*
Sept. 23, 1915. F12-388

— Alaska fisheries and fur industries in 1915. (Canning: p. 30-41.) Appendix
 III, Report, 1915 (1917), 140 p. *Doc. 834 issued Jan. 6, 1917.* F12-388

Bower, Ward Taft, and H. C. Fassett: [Salmon canning: p. 83-103.] In Alaska
 fisheries and fur industries in 1913, by Barton Warren Evermann. Appendix
 II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388

Chamberlain, Frederick M., and Ward Taft Bower: [Salmon canning: p. 46-53.]
 In Fisheries and fur industries of Alaska in 1912, by Barton Warren Evermann.
 Report and special papers, 1912 (1914), 123 p. F12-388

Chittenden, Newton H.: [Salmon canning in British Columbia.] Bulletin, 1884
 (1884), vol. IV, p. 313-314.

Cobb, J. N.: [Preserving fishery products by canning.] Bulletin, 1897 (1898), vol.
 XVII, p. 350-351.

— The salmon fisheries of the Pacific coast. (Canning: p. 46-60.) Report and
 special papers, 1910 (1911), 179 p. *Doc. 751 issued Nov. 25, 1911.* F11-393

Cobb, J. N., and F. M. Chamberlain: [Salmon canning: p. 38-47.] In Alaska
 fisheries and fur industries in 1911, by B. W. Evermann. Report and special
 papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388

Cobb, J. N., and H. M. Kutchin: The fisheries of Alaska in 1906. [Salmon canning:
 p. 13-17.] Report and special papers, 1906 (1908), 70 p. *Doc. 618 issued Dec.*
31, 1906. 7-35263

Collins, Joseph William: [Sardine canning industry in California.] Report, 1888-
 89 (1892), p. 158-159.

Earll, R. Edward: Proposed limitation of the herring fishery in Maine and its effect
 upon bait and canning interests. Bulletin, 1883 (1883), vol. III, p. 445-446.
 F18-177

— [The mackerel canning industry; origin and development.] Report, 1881
 (1884), p. 221-227. F11-252

Earll, R. Edward, and Hugh M. Smith: The American sardine industry in 1886.
 Bulletin, 1887 (1889), vol. VII, p. 161-192. *Doc. 123 issued June 20, 1889.* F18-593

Green, Loren W.: Report on the packing of salmon on the Pacific coast from 1883 to
 1886. Bulletin, 1886 (1887), vol. VI, p. 286-288. F18-593

Goode, George Brown: [Manufacture of sardines from menhaden.] Report, 1877
 (1879), p. 137-139.

Hall, Ansley: [The sardine industry of the Passamaquoddy region, Maine.] Report,
 1896 (1898), p. 464-480.

Homergue, Louis C. d': [The sardine canneries of Fraser River.] Bulletin, 1884
 (1884), vol. IV, p. 314.

Hume, R. D.: [The first salmon cannery: p. 46-48.] Quoted by Cobb in The salmon
 fisheries of the Pacific coast. Report and special papers, 1910 (1911), 179 p.

- Kemp, N. H., and others:** The sardine cannery industry of Eastport, Maine. [A petition to the secretary of the treasury.] Bulletin, 1885 (1885), vol. V, p. 241-243. F18-416
- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1907. (Salmon canning: p. 34-39.) Report and special papers, 1907 (1909), 77 p., pls., charts, illus. *Doc. 632 issued Apr. 16, 1908.* 7-35263
- The fisheries of Alaska in 1908. (Salmon canning: p. 19-23.) Report and special papers, 1908 (1910), 78 p. *Doc. 645 issued Apr. 17, 1909.* 7-35263
- The fisheries of Alaska in 1909. (Salmon canning: p. 16-19.) Report and special papers, 1909 (1911), 58 p. 7-35263
- The fisheries of Alaska in 1910. (Salmon canning: p. 15-21.) Report and special papers, 1910 (1911), 72 p. *Doc. 746 issued Apr. 19, 1911.* 7-35263
- Moser, Jefferson F.:** The salmon and salmon fisheries of Alaska. Report of the operations of the U. S. Fish commission steamer *Albatross* for the year ending June 30, 1898. Bulletin, 1898 (1899), vol. XVIII, 178 p. F12-94
- The salmon fisheries of Alaska. Bulletin, 1901 (1902), vol. XXI, p. 173-398, illus., fold. tables and charts, XLIV pls. *Doc. 510 issued Oct. 31, 1902.* F12-278
- The sardine fisheries.** Tr. from the Danish by Herman Jacobson. Report, 1888-89 (1892), p. 163-165.
- Schultz, Alexander:** [Preparation of the products from the White Sea, the Arctic Ocean, and the Caspian Sea.] Report, 1873-74 and 1874-75 (1876), p. 25-96.
- Smith, Hugh McCormick:** [Sardines, anchovies, and sardine canning.] Bulletin, 1894 (1895), vol. XIV, p. 227-230.
- [Mackerel canning in California.] Bulletin, 1894 (1895), vol. XIV, p. 231.
- [Preparation of sardines in Maine.] Report, 1894 (1896), p. 142-143.
- The French sardine industry. Bulletin, 1901 (1902), vol. XXI, 26 p. *Doc. 473 issued Sept. 26, 1901.* F12-266
- Statistics of whaling, cod fishing, and salmon packing on the Pacific coast.** Bulletin, 1886 (1887), vol. VI, p. 89-90. F18-544
- Stevenson, Charles Hugh:** [Sardines.] Bulletin, 1898 (1899), vol. XVIII, p. 526-537.
- [The preservation of fishery products by canning.] Bulletin, 1898 (1899), vol. XVIII, p. 507-540.
- Stone, Livingston:** Best season for packing salmon on the Pacific coast. Bulletin, 1887 (1889), vol. VII, p. 65-66. F18-653
- Tanner, Zera Luther:** [Salmon canneries of Bristol Bay.] Report, 1889-91 (1893), p. 284-287.
- U. S. Commissioner of Fisheries:** [Tuna canning industry of California.] Report, 1914 (1915), p. 35-37.
- [Home canning of fish.] Report, 1918 (1920), p. 35-37.
- Walker, E. P.:** [Mild cure in operations in southeast Alaska in 1914.] *Quoted by* W. T. Bower and H. D. Aller *in* Alaska fisheries and fur industries in 1914. Appendix IX, Report, 1914 (1915), 89 p. F12-388
- Wilcox, William A.:** [Packing sardines in California.] Report, 1893 (1895), p. 192.
- [Notes on salmon canning on the Pacific coast.] Report, 1896 (1898), p. 583-587.

Caviar.

- Cobb, John Nathan:** [Preparation of caviar.] Report, 1899 (1900), p. 378-379.
- Hovey, H. C.:** [Preparation of caviar.] Bulletin, 1884 (1884), vol. IV, p. 346-348.
- Radcliffe, Lewis:** Caviar: what it is and how to prepare it. (Selected bibliography: p. 7-8.) 8 p., illus. *Economic Circular 20 issued Apr. 19, 1916.* F16-86
- Ryder, John Adam:** [Manufacture of caviar.] Bulletin, 1888 (1890), vol. VIII, p. 277-278.
- Schultz, Alexander:** [Manufacture of caviar.] Report, 1873-74 and 1874-75 (1876), p. 84-86.
- Smith, Hugh McCormick, and Merwin-Marie Snell:** [Manufacture of caviar.] Report, 1887 (1891), p. 249, 272, 288.
- Stevenson, Charles Hugh:** [The preservation of fish roe for food.] Bulletin, 1898 (1899), vol. XVIII, p. 541-546.
- Townsend, Charles Haskins:** [Caviar from paddle-fish.] Report, 1901 (1902), p. 160.
- U. S. Commissioner of Fisheries:** [Manufacture of caviar by fishermen.] Report, 1901 (1902), p. 581.

Cooking.

- Behr, Friedrich von:** Five recipes for cooking carp. Bulletin, 1886 (1887), vol. VI, p. 276. F18-590
- Coker, Robert Ervin:** The bowfin: an old-fashioned fish with a new-found use. 4 p., illus. *Economic Circular 26 issued May 11, 1917.* F17-188

- [To cook carp.] Bulletin, 1886 (1887), vol. VI, p. 134.
- Dolge, Alfred:** The preparation and cooking of carp. Bulletin, 1886 (1887), vol. VI, p. 204-205. F18-575
- Gerber, C.:** How to cook carp. Bulletin, 1884 (1884), vol. IV, p. 151-152. F18-257
- Gross, Julius:** Another recipe for cooking carp. Bulletin, 1886 (1887), vol. VI, p. 277. F18-591
- Haverfield, N. T.:** [Recipe for cooking carp.] Bulletin, 1886 (1887), vol. VI, p. 401.
- How to cook carp and tench.** Bulletin, 1884 (1884), vol. IV, p. 139-140. F18-248
- Moore, Henry Frank:** The grayfish. Try it. It knocks H. out of the H. C. of L. 8 p., illus. *Economic Circular 22 issued Nov. 29, 1916.* F17-107
- The sablefish, alias black cod. An introduction to one of the best and richest of American food-fishes, with recipes for cooking it, by Mary E. Rausch and J. C. Grant. 8 p., illus. *Economic Circular 23 issued Mar. 8, 1917.* F17-155
- The burbot: a fresh-water cousin to the cod. (Recipes contributed by Mrs. Albert Sidney Burleson, Mrs. William E. Redfield, Lake Erie fishermen, and New England Exchange.) 4 p., illus. *Economic Circular 25 issued May 9, 1917.* F17-236
- Why and how to use salt and smoked fish. Sixty-one ways of cooking them. (Collated and adapted from various sources by William C. Kendall . . . and Rose M. MacDonald.) 8 p. *Economic Circular 29 issued Aug. 8, 1917.* F17-244
- The whiting: a good fish not adequately realized. 4 p., illus. *Economic Circular 32 issued Oct. 10, 1917.* F17-265
- The eulachon: a rich and delicious little fish. 4 p., illus. *Economic Circular 33 issued Dec. 5, 1917.* F18-1
- Skates and rays. Interesting fishes of great food value, with 29 recipes for for cooking them. 7 p., illus. *Economic Circular 34 issued Mar. 20, 1918.* F18-516
- Groupers: fishes you should try, with recipes for cooking them (by Evelyn Spencer.) 8 p., illus. *Economic Circular 44 issued Mar. 21, 1919.* F19-4
- The haddock: one of the best salt-water fishes. With recipes for cooking it. 8 p., illus. *Economic Circular 47 issued Aug. 18, 1920.* F20-159
- Radcliffe, Lewis:** Sharks as food. With thirty recipes. 8 p. *Economic Circular 35 issued Apr. 29, 1918.* F18-683
- Fish roe and buckroe. With 85 recipes (contributed by Lewis Radcliffe, Rose M. MacDonald, Olive B. Percival, L. Madeline McClintock, W. C. Kendall). 11 p. *Economic Circular 37 issued June 6, 1918.* F18-684
- Smiley, Charles Wesley:** Notes on the edible qualities of the German carp and hints about cooking them. Bulletin, 1883 (1884), vol. III, p. 305-332. F11-311
- Smith, Hugh McCormick:** Commercial possibilities of the goose-fish: a neglected food; with 10 recipes (by Charles Doucot). 5 p. *Economic Circular 13 issued Dec. 15, 1914.* F14-131
- Some recipes for cooking fish.** Bulletin, 1886 (1887), vol. VI, p. 127-128. F18-560
- Taylor, H. F.:** The carp: a valuable food resource, with twenty-three recipes (selected). 7 p., illus. *Economic Circular 31 issued Sept. 26, 1917.* F17-258
- U. S. Bureau of Fisheries:** Canned salmon: cheaper than meats, and why. Including fifty tested recipes. 11 p. *Economic Circular 11 issued Mar. 7, 1914.* F14-35
- The tilefish: a new deep-sea fish. With 12 recipes for cooking it by Charles Doucot. 6 p., illus. *Economic Circular 19 issued Sept. 30, 1915.* F15-156
- [Experiments relating to the preservation of fishery products.] Report, 1918 (1920), p. 18-21.
- Van Antwerp, W.:** [Manner of cooking German carp.] Bulletin, 1882 (1883), vol. II, p. 300.
- Wallen, Frederik Meltzer:** [A culinary fish-dinner with international dishes.] Report, 1878 (1880), p. 80-83.
- Warren & Co.:** [How to cook the red snapper.] Bulletin, 1885 (1885), vol. V, p. 94-95.
- Zeller, George A.:** [Philippine fish-cakes.] Report, 1902 (1904), p. 140.

Dried.

- Cobb, John Nathan:** [Preparation of fishery products in the Hawaiian Islands.] Bulletin, 1903 (1905), vol. XXIII, p. 750-751.
- Gundersen, H.:** Drying codfish at Bordeaux. Bulletin, 1886 (1887), vol. VI, p. 84-86, illus. F18-542
- Ito, K.:** [Dried herring in Japan.] Bulletin, 1893 (1894), vol. XII, p. 435.
- A new process of drying fish.** Bulletin, 1883 (1883), vol. III, p. 432.

Stevenson, Charles Hugh: [Chinese method of preserving, by drying, of shrimp, redfish, squid, sturgeon, and trepang.] Bulletin, 1898 (1899), vol. XVIII, p. 414-420.

— [Drying fish by artificial means.] Bulletin, 1898 (1899), vol. XVIII, p. 420-424.

— [The preservation of fishery products by drying and dry-salting.] Bulletin, 1898 (1899), vol. XVIII, p. 389-414.

Fish Eggs.

Stevenson, Charles H.: [The preservation of fish eggs for food.] Bulletin, 1898 (1899), vol. XVIII, p. 541-548.

Kippered.

Collins, Joseph William: [Kippered mackerel and methods of curing.] Bulletin, 1885 (1885), vol. V, p. 40.

Simonson, Carl: [Kippered herring.] Bulletin, 1886 (1887), vol. IV, p. 154-155.

Smith, Hugh M.: [Kippered herring.] Bulletin, 1902 (1904), vol. XXII, p. 4.

Klip fish.

Annaniasson, Abraham: Klip-fish at the Shetland Islands. Bulletin, 1885 (1885), vol. V, p. 316-319. F18-462

Friele, M.: [Preparation of cod in Norway.] Report, 1877 (1879), p. 716-717.

The Manufacture of klip-fish. Report, 1885 (1887), p. 325-351. F17-144

Thorsteinson, A.: [Manufacture of klip-fish.] Report, 1884 (1886), p. 315-319.

Trolle, C.: Salting fish in Jutland. Report, 1884 (1886), p. 411-419. F17-133

Miscellaneous processes.

Anderssen, Joakim: [Methods of preparing fish for markets.] Report, 1878 (1880), p. 47-71.

Baird, Spencer Fullerton: [Preservation of fish by drying, salting, smoking, etc.] Report, 1886 (1889), p. 133-138.

Bumpus, H. C.: [Preparation of fish as an article of food.] Bulletin, 1897 (1898), vol. XVII, p. 178-179.

Cobb, John Nathan: [Florida's fishery resources.] Bulletin, 1897 (1898), vol. XVII, p. 349-351.

— [Preparation of fishery products in the Hawaiian Islands.] Report, 1901 (1902), p. 433-434.

Coker, Robert Ervin: [Preservation of fishery products in Peru.] Bulletin, 1908 (1910), vol. XXVIII, p. 347-354.

Collins, Joseph William: Report on the fisheries of the Pacific coast of the United States. [Frozen, canned, salted, dried fish-products from the whale. Use of by-products.] Report, 1888-89 (1892), p. 3-269.

Day, Francis: [Preparation of fishery products in India.] Report, 1883 (1885), p. 404 and 408.

Earl, Edward R.: [Pressing "kyacks" and shore-whaling for finbacks in Maine.] Bulletin, 1886 (1887), vol. VI, p. 312-313.

Ewart, James Cossar: The preservation of fresh fish. Bulletin, 1886 (1887), vol. VI, p. 65-75. F18-536

Field, Irving A.: Utilized fishes and their relation to the fisheries industries. Report and special papers, 1906 (1907), 50 p. Doc. 622 issued Sept. 10, 1907. 7-35352

Ito, K.: Fishery industries of the Island of Hokkaido, Japan. Bulletin, 1886 (1887), vol. VI, p. 342-345. F18-607

Jennings, Ralph S.: Process of preserving fish. Bulletin, 1883 (1883), vol. III, p. 336. F18-144

Kendall, William Converse: How the angler may preserve his catch. 7 p. *Economic Circular 37* issued June 6, 1918. F18-687

Lawrence-Hamilton, J.: [Fish as cheap food.] Bulletin, 1893 (1894), vol. XIII, p. 332-333.

London, Fish Trades Gazette: [Establishments for utilizing fish products.] Bulletin, 1886 (1887), vol. VI, p. 414-415.

Malmros, Oscar: Preserving fish in Scotland by the Roosen process. (Dispatch No. 70 to State department.) Bulletin, 1885 (1887), vol. VI, p. 109-110. F18-550

Martin Brant's method of preserving fresh fish and other articles of food (by compressed air). Bulletin, 1884 (1884), vol. IV, p. 395-397. F18-349

Moore, Henry Frank: Preserving fish for domestic use. 2 p. *Economic Circular 28* issued May 26, 1917. F17-241

- [Preserving fish with boric acid.] Bulletin, 1886 (1887), vol. VI, p. 450.
- Roosen, August R.:** [The Roosen process of preserving fish.] Bulletin, 1886 (1887), vol. VI, p. 307-308.
- Söiling, A.:** An improved and practical method of packing fish for transportation. Bulletin, 1908 (1910), vol. XXVII, p. 295-301. *Doc. 659 issued February, 1910.* 10-35135
- Stevenson, Charles Hugh:** The preservation of fishery products for food. Bulletin, 1898 (1899), vol. XVII, p. 335-363, pl. *Doc. 417 issued Dec. 12, 1899.* 5-5014
- Tower, Ralph Winfred:** Improvements in preparing fish for shipment. Bulletin, 1899 (1901), vol. XIX, p. 231-235. *Doc. 443 issued Sept. 12, 1900.* F12-91
- U. S. Bureau of Fisheries:** [Use of antiseptic preservatives: Roosen process: Pursell process.] Report, 1887 (1891), p. 354-357.
- Widgren, Hjalmar:** On the herring and its preparation as an article of trade. Report, 1873-74 and 1874-75 (1876), p. 183-193. F16-11
- [Preparing herring and cod for market.] Report, 1878 (1880), p. 130-140.
- Wilcox, William A.:** Notes on the fishery trade and local fisheries of Porto Rico. Report, 1899 (1900), p. 1-34 incl. tables. F11-104

Refrigeration.

- Clark, A. Howard:** Notes on the history of preparing fish for market by freezing. Bulletin, 1886 (1887), vol. VI, p. 467-469. F18-632
- Gamgee, John:** On artificial refrigeration. Report, 1877 (1879), p. 901-972, illus., 3 pl. *Doc. 26 issued Oct. 29, 1879.* F12-237
- Lawrence-Hamilton, J.:** [Refrigeration.] Bulletin, 1893 (1894), vol. XIII, p. 300-303.
- Stevenson, Charles Hugh:** [Preservation of fishery products by refrigeration and low temperature.] Bulletin, 1898 (1899), vol. XVIII, p. 358-388.

Salting.

- Cobb, John Nathan:** Pacific cod fisheries. (Preparing cod for market: p. 63-79.) Appendix IV, Report, 1915 (1917), 111 p. *Doc. 830 issued Oct. 23, 1916.* F16-191
- Clark, A. Howard:** [To prevent fish from reddening.] Bulletin, 1885 (1885), vol. V, p. 79.
- Collins, Joseph William:** [Codfish curing in Newfoundland.] Report, 1887 (1891), p. 545-546.
- Earl, Robert Edward:** [Dressing cod—Methods of salting—Preservation of cod liver.] Report, 1878 (1880), p. 701-704.
- Farlow, William Gibson:** Vegetable parasites of codfish. Bulletin, 1886 (1887), vol. VI, p. 1-4, illus. F18-521
- On the nature of the peculiar reddening of codfish during the summer season. Report, 1878 (1880), p. 969-974. F20-120
- Friele, M.:** [Salting codfish in Norway.] Report, 1877 (1879), p. 716-717.
- Hall, Ansley:** [Smoked and pickled herring industry of the Passamaquoddy region, Maine.] Report, 1896 (1898), p. 454-464.
- Lawrence-Hamilton, J.:** [Poisoning from red-salted codfish.] Bulletin, 1893 (1894), vol. XIII, p. 326-327.
- [Bacterial infection of fish by impure preservatives.] Bulletin, 1893 (1894), vol. XIII, p. 326-327.
- [Uses of salt in preserving fishes.] Bulletin, 1893 (1894), vol. XIII, p. 328-329.
- Moser, Jefferson F.:** [Salting salmon.] Bulletin, 1898 (1899), vol. XVIII, p. 21.
- Methods of preparing fish bladders for market.** Bulletin, 1886 (1887), vol. VI, p. 59-63. F18-534
- [Salting and drying the tongues of codfish in Norway.]** Bulletin, 1886 (1887), vol. VI, p. 318-319. F17-134
- The salting of herring.** Report, 1884 (1886), p. 421-433. F18-485
- Salting roe in Norway.** Bulletin, 1885 (1885), vol. V, p. 410-414.
- Scudder, Newton Pratt:** [Dressing and salting the halibut.] Report, 1880 (1883), p. 213-214.
- Smith, J. K.:** Historical observations on the conditions of the fisheries among the ancient Greeks and Romans, and on their mode of salting and pickling fish. Report, 1873-74 and 1874-75 (1876), p. [3]-20. F16-2
- Smith, Hugh McCormick:** [White-cured herring.] Bulletin, 1902 (1904), vol. XXII, p. 5-7.

- Stevenson, Charles Hugh:** [The preservation of fishery products by pickling.] Bulletin, 1898 (1899), vol. XVIII, p. 425-473.
- Swan, James G.:** [Economical manner of putting up the black cod.] Bulletin, 1885 (1885), vol. V, p. 232-233.
- Thorsteinson, A.:** [Curing cod in Iceland.] Report, 1884 (1886), p. 316-322.
- Tressler, Donald Kiteley:** Some considerations concerning the salting of fish. (Bibliography: p. 55.) Appendix V, Report, 1919 (1921), 54 p. *Doc. 884 issued Mar. 20, 1920.* F20-109
- Trolle, C.:** Salting fish in Jutland. Report, 1884 (1886), p. 411-419. F17-133
- Widegren, Hjalmar:** On the herring and its preparation as an article of trade. Report, 1873-74 and 1874-75 (1876), p. 183-193. F16-11
- [Preparation of the herring for the trade.] Report, 1878 (1880), p. 130-135.
- [Method of preparing the Baltic codfish for market.] Report, 1878 (1880), p. 139-140.

Smoking.

- Cobb, John Nathan:** [Fishery products in the smoked state.] Bulletin, 1897 (1898), vol. XVII, p. 350-351.
- [Smoking eels caught in Oneida River.] Report, 1903 (1905), p. 235-236.
- Collins, Joseph William:** Edible qualities of smoked kingfish (*Scomberomorus cavalla* Cuv.). Bulletin, 1885 (1885), vol. V, p. 359. F18-477
- Proposition to prepare kingfish by smoking. Bulletin, 1885 (1885), vol. V, p. 360. F18-478
- Earl, R. Edward:** [Smoking of finnen haddies at Eastport.] Bulletin, 1887 (1889), vol. VII, p. 273-274.
- [Methods of smoking herring.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. I, pt. VI, p. 473-485.
- Garde, Aug.:** Smoking herring in Denmark. Bulletin, 1885 (1885), vol. V, p. 417-422. F18-487
- Ito, K.:** [Curing fish in Japan.] Bulletin, 1893 (1894), vol. XIII, p. 435-437.
- Smith, Hugh McCormick:** Note on the Scotch methods of smoking haddocks. Report, 1901 (1902), p. 269-271. F11-23
- [Red herring.] Bulletin, 1902 (1904), p. 4.
- Stevenson, Charles H.:** [The preservation of fishery products by smoking.] Bulletin, 1898 (1899), vol. XVIII, p. 474-506.
- U. S. Bureau of Fisheries:** [Salting and smoking eels.] Bulletin, 1885 (1885), vol. V, p. 306. F18-451
- A practical small smokehouse for fish: How to construct and operate it. (Based on experiments by J. B. Southall, United States fisheries biological station, Fairport, Iowa.) 7 p., illus. *Economic Circular 27 issued May 17, 1917.* F17-184
- Ibid. 8 p., illus. *Revised Oct. 25, 1917.* F17-264
- Ibid. 12 p., illus. *Second revision February, 1918.* F18-685
- U. S. Commissioner of Fisheries:** [Smoked kingfish.] Report, 1885 (1887), p. LII-LIII.

NUTRITIVE VALUE.

- American Carp Culture Association:** [Edible qualities of carp.] Bulletin, 1886 (1887), vol. VI, p. 316.
- Atwater, Wilber Olin:** Report of progress of an investigation of the chemical composition and economical values of fish and invertebrates used for food. Undertaken for the U. S. Fish commission. Report, 1880 (1883), p. 231-285 incl. tables. F16-273
- Table illustrative of the nutritive value of fish. Bulletin, 1884 (1884), vol. IV, p. 203-205. F13-97
- Contributions to the knowledge of the chemical composition and nutritive value of American food-fishes and invertebrates. Report, 1883 (1885), p. 433-499 incl. tables. *Doc. 98 issued Aug. 16, 1886.* F11-242
- The chemical composition and nutritive values of food-fishes and aquatic invertebrates. Report, 1888-89 (1892), p. 679-868 incl. tables, 9 fold. col. diagr. *Doc. 185 issued June 2, 1892.* Agr. 3-567
- Baird, Spencer Fullerton:** [Food value of carp.] Bulletin, 1884 (1884), vol. IV, p. 306.
- [Value of fish as food.] Report, 1886 (1889), p. 144-149.
- Brevoort, J. Carson:** [The gurnard as an edible fish.] Quoted by Goode in The fisheries and fishery industries of the United States. 1884. Sec. I, pt. III, p. 256-257.

- Chittenden, Russel Henry, and George Cummins: On the relative digestibility of fish flesh in gastric juice. Report, 1884 (1886), p. 1109-1122 incl. tables. F17-138
- Cole, Leon Jacob: [Food value of the carp.] Report, 1904 (1905), p. 604-607.
- Collins, Joseph William: [Preservation of kingfish for food, by drying and salting.] Report, 1885 (1887), p. 271-273.
- Davis, H. B.: Table qualities of carp. Bulletin 1882 (1883), vol. II, p. 317-318. F18-109
- Dorrance, C.: [Value of shad as food.] Report 1881 (1884), p. 629.
- [Eels consumed in England.] Bulletin, 1886 (1887), vol. VI, p. 139-140.
- Field, Irving A.: Sea mussels and dogfish as food. Bulletin, 1908 (1910), vol. XXVIII, p. 241-257. Doc. 655 issued 1910. 10-35138
- Utilized fish and their relation to the fishing industries. (Dogfish as food: p. 43-46.) Report and special papers, 1906 (1907), 50 p. Doc. 622 issued Sept. 10, 1907. 7-35352
- Goode, George Brown: [Food preparations derived from menhaden.] Report, 1877 (1879), p. 139.
- [The menhaden as a table fish.] Report, 1877 (1879), p. 135.
- [Swordfish as an article of food.] Report, 1880 (1883), p. 363.
- [Lampreys esteemed as an article of food.] Report, 1880 (1883), p. 363.
- Henshall, James Alexander: Culture of the Montana grayling. [Food qualities: p. 4.] Report and special papers, 1906 (1908), 7 p. Doc. 628 issued Dec. 11, 1907. 7-35051
- Hovey, H. C.: [Preparation of sturgeon for the table.] Bulletin, 1884 (1884), vol. VI, p. 347.
- Jordan, David Starr: The habits and value for food of the American channel catfish (*Ictalurus punctatus*, Rafinesque). Bulletin, 1885 (1885), vol. V, p. 34. F18-372
- Kendall, William Converse: [Silversides as food fish.] Report, 1901 (1902), p. 244-245.
- [Food qualities of the commercial catfishes.] Bulletin, 1902 (1904), vol. XXII, p. 401-402.
- American catfishes. (Food qualities: p. 19-20.) Report and special papers, 1908 (1910), 39 p. X pls. Doc. 733 issued Aug. 23, 1910. 10-35947
- Kensington, E. T.: Composition of some of the food-fishes. Bulletin, 1884 (1884), vol. IV, p. 74-75. F18-225
- Kenworthy, Charles James: Food qualities of tarpon (Megalops). Bulletin, 1884 (1884), vol. IV, p. 80. F18-230
- Kostychev, Pavel Andreevich: Chemical composition of fish products, with some remarks on their nutritive value. Report, 1886 (1889), p. 1019-1025. F17-149
- Lawrence-Hamilton, J.: Foul fish and filth fevers. Bulletin, 1893 (1894), vol. XIII, p. 311-334. Doc. 268 issued 1894. F12-183
- Phillips, Barnet: [Edible qualities of the pole flounder (*Gyptocephalus cynoglossus*).] Bulletin, 1884 (1884), vol. IV, p. 317-318.
- [Valuable food-fish of California.] Bulletin, 1894 (1895), vol. XIV, p. 230-231.
- [Sharks as food in Iceland.] Bulletin, 1885 (1885), vol. V, p. 301.
- Smiley, Charles Wesley: Notes on the edible qualities of German carp and hints about cooking them. Bulletin, 1883 (1883), vol. III, p. 305-332. F11-311
- Smith, Hugh McCormick: [Edible qualities of whiting.] Report, 1894 (1896), p. 154-159.
- [Value of catfishes, carp, shad, and bass as food.] Bulletin, 1895 (1896), vol. XV, p. 394, 395-403, 425, 456-457.
- Sparks, George L.: [Porpoise as food.] Bulletin, 1885 (1885), vol. V, p. 215.
- Taylor, H. F.: Possibilities of food from fish. 4 p. Economic Circular 30 issued Aug. 28, 1917. F17-245
- Thompson, Edward: Edible qualities of carp. Bulletin, 1884 (1884), vol. IV, p. 176. F18-268
- U. S. Commissioner of Fisheries: [Sharks utilized for food in South Carolina.] Report, 1903 (1905), p. 380.
- White, George F., and Thomas Adrian: A new method for determination of the food value of proteins, with application to *Cynoscion regalis*. Bulletin, 1912 (1913), vol. XXXII, p. 175-181, illus. Doc. 784 issued Feb. 18, 1914. F14-5
- Widegren, Hjalmar: On the herring and its preparation as an article of trade. Report, 1873-74 and 1874-75 (1876), p. 183-193. F16-11
- Zeller: [Sinarapan as food in provinces of the Camarines.] Bulletin, 1901 (1902), vol. XXI, p. 169.

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GENERAL.

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- Brice, John J.:** Remarks on the movements and breeding-grounds of the fur-seal, based on observations made while on the United States naval patrol of Bering Sea in 1894. Report, 1894 (1896), 1 p. l., p. 573-577. Doc. 317 issued Nov. 7, 1896. F11-192
- Brown, James Temple:** Some notes on whales. Bulletin, 1883 (1883), vol. III, p. 411-416. F18-155
- Collins, Joseph William:** Adventure with a whale in the River Tay, Scotland. Compiled from newspaper clippings. Bulletin, 1884 (1884), vol. IV, p. 213-217. F18-285
- Elliott, Henry W.:** The habits of the fur seal. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 75-113.
- Evermann, Barton Warren:** [Notes on mammals noticed in Montana and Wyoming.] Bulletin, 1891 (1893), vol. XI, p. 55-56.
- Fisher, J. G.:** [Capture of a young blackfish.] Bulletin, 1885, (1885) vol. V, p. 467.
- Goode, G. Brown:** The seals and walruses. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 33-74.
- The whales and porpoises. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 7-32.
- [Destructiveness of whales and porpoises.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 15-17.
- Hector, James:** [Fur seals of New Zealand.] Bulletin, 1884 (1884), vol. IV, p. 53.
- Hinkelmann:** Injuries to the fisheries in the Baltic by seals. Bulletin, 1887 (1889), vol. VII, p. 81-83. F18-643
- Hobbs, James R.:** Stranding of a pigmy sperm-whale. Bulletin, 1885 (1885), vol. V, p. 450. F18-507
- Merriam, C. Hart:** [Food of sea lions.] Quoted by Smith. Report, 1902 (1904), p. 113-114.
- Milan, Thomas:** [Stranding of a finback whale at Mount Desert light station.] Bulletin, 1885 (1885), vol. V, p. 337.
- Osgood, Wilfred Hudson; Edward Alexander Preble; and George Howard Parker:** The fur seals and other life of the Pribilof Islands, Alaska, in 1914. (Bibliography, comp. by Rose M. McDonald: p. 149-167.) Bulletin, 1914 (1915), vol. XXXIV, p. 1-172, pl. I-XVIII, 24 maps (part. fold.). Doc. 820 issued June 19, 1915. F15-85
- Proctor, A. H.:** [Foxing operations of St. George Island: p. 100-102.] In Alaska fisheries and fur industries in 1918. Appendix VII, Report, 1918 (1920).
- Rutter, Cloudsley; Snodgrass; and Starks:** [Report on the sea-lion investigations, 1901.] Report, 1902 (1904), p. 116-119.
- San Francisco Bulletin:** [Destructiveness of sea lions.] Quoted by Smith. Report, 1902 (1904), p. 111-112.
- Siglin, Zachary T.:** [Sea-lions on the coast of Oregon.] Bulletin, 1886 (1887), vol. VI, p. 140.
- Slade, Elisha:** Dates of the appearance of herring, shad, tautog, scup, frostfish, fishhawk, kingfishers, and Greenland seals in Tauton River from 1871 to 1883, inclusive. Bulletin, 1883 (1883), vol. III, p. 478. F18-201
- Smiley, Charles Wesley:** First appearance of porpoise. Bulletin, 1883 (1883), vol. III, p. 272. F18-132
- Smith, Hugh McCormick:** [Destructiveness of sea lions.] Report, 1902 (1904), p. 111-119.
- Stanley-Brown, Joseph:** Past and future of the fur-seal. Bulletin, 1893 (1894), vol. XIII, p. 361-370. Doc. 273 issued June 9, 1894. F12-183
- Stejneger, Leonhard Hess:** The Russian fur-seal islands. Bulletin, 1896 (1896), vol. XXVI, 148 p., 66 pl. (partly fold.). Doc. 316 issued Nov. 13, 1896. F11-354
- Swan, James G.:** Report of investigations at Neah Bay, Wash., respecting the habits of fur seals of the vicinity, and to arrange for procuring specimens of skeletons of Cetacea. Bulletin, 1883 (1883), vol. III, p. 201-207. F12-381

- Tanner, Zera Luther:** Occurrence of fur-seals in mid-ocean. Bulletin, 1882 (1883), vol. II, p. 216. F18-98
- True, Frederick William:** Suggestions to keepers of the U. S. life-saving stations, light-houses, and light-ships; and to other observers, relative to the best means of collecting and preserving specimens of whales and porpoises. Report, 1883 (1885), 26 p., XI pl. F11-306
- Catalogue of the aquatic mammals exhibited by the United States National museum. (At head of title: Great International fisheries exhibition. London, 1883. H.) 22 p. Doc. 74 issued May 9, 1884. F18-390
- The sirenians or sea-cows. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 114-136.
- Report of a trip to Long Island in search of skeletons of the right whale, *Balaena cisartica*. Bulletin, 1885 (1885), vol. V, p. 131-132. F18-387
- Notice of the capture of a male pigmy sperm whale—*Kogia breviceps*—at Kitty Hawk, North Carolina. Bulletin, 1885 (1885), vol. V, p. 132-134. F18-388
- Notes on a porpoise of the genus *Prodelphinus* from the Hawaiian Islands. Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 809-815. Doc. 544 issued Sept. 18, 1903. F11-381
- Trumbull, J. Hammond:** [*Dubertus rhodinsulensis*.] Quoted by Goode in The fisheries and fishery industries of the United States. 1884. Sec. I, pt. I, p. 29-30.
- U. S. Bureau of Fisheries:** [Sea-lion rookery.] Bulletin, 1888 (1890), vol. VIII, p. 37.

EMBRYOLOGY.

- Ryder, John Adam:** On the development of the mammary glands and genitalia of the Cetacea. (Bibliography: p. 141-142.) Bulletin, 1885 (1885), vol. V, p. 135-142. F18-390
- On the development of the Cetacea, together with a consideration of the probable homologies of the flukes of Cetaceans and Sirenians. Report, 1885 (1887), p. 427-488, III, pl. F11-297

INDUSTRIES.

SEALING.

- Bower, Ward T.:** Alaska fisheries and fur industries in 1918. Appendix VII, Report, 1918 (1920), 128 p. Doc. 872 issued Dec. 8, 1919. F12-388
- Alaska fisheries and fur industries in 1919. Appendix IX, Report, 1919 (1921), 160 p. Doc. 891 issued Dec. 11, 1920. F12-388
- Bower, Ward T., and Henry D. Aller:** Alaska fisheries and fur industries in 1914. Appendix IX, Report, 1914 (1915), 89 p. Doc. 819 issued Sept. 23, 1915. F12-388
- Alaska fisheries and fur industries in 1915. Appendix III, Report, 1915 (1917), 140 p. Doc. 834 issued Jan. 6, 1917. F12-388
- Alaska fisheries and fur industries in 1916. Appendix II, Report, 1916 (1917), 118 p. Doc. 838 issued Aug. 14, 1917. F12-388
- Alaska fisheries and fur industries in 1917. Appendix II, Report, 1917 (1919), 123 p. Doc. 847 issued Dec. 28, 1918. F12-388
- Clark, A. Howard:** The blackfish and porpoise fisheries. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XVI, p. 295-310.
- The Pacific walrus fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XVII, p. 311-318.
- The Antarctic fur-seal and sea-elephant industry. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XVIII, p. 400-467.
- The North-Atlantic seal-fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XVIII, p. 474-483.
- Cobb, John Nathan:** [Seal fishery of the Hawaiian Islands.] Report, 1901 (1902), p. 496-497.
- Commercial fisheries of Alaska in 1905. (Fur-seal: p. 31-33.) Report and special papers, 1905 (1907), 46 p.
- Cobb, John Nathan, and Howard M. Kutchin:** The fisheries of Alaska in 1906. (Fur-seal: p. 58.) Report and special papers, 1906 (1908), 70 p.
- Collins, Joseph William:** [Fur-seal industry of the Pacific coast of the United States.] Report, 1888-89 (1892), p. 3-269.
- Elliott, Henry W.:** A monograph of the seal islands of Alaska. Reprinted, with additions, from the report on the fishery industries of the tenth census (Special bulletin 176). 1882. 176 p., illus., XXIX pl., 2 fold. maps. 10-9891
- The sea-lion hunt. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XVIII, p. 467-474.
- The fur-seal industry of the Pribilof Islands, Alaska. In The fisheries and fishery industries of the United States. 1887. Sec. V, pt. XVIII, p. 319-393.

- Elliott, Henry W.:** The sea-otter fishery. In *The fisheries and fishery industries of the United States*. 1887. Sec. V, vol. 2, pt. XVIII, p. 483-491.
- Evermann, Barton Warren:** Alaska fisheries and fur industries in 1911. (*Contents*.—General administrative report, by B. W. Evermann and F. M. Chamberlain. Statistics of the fisheries of Alaska for 1911, by J. N. Cobb and F. M. Chamberlain. Fish culture in Alaska, by W. T. Bower. The fur-seal service in 1911, by W. I. Lembkey.) Report and special papers, 1911 (1913), 99 p. *Doc. 766 issued Dec. 16, 1912.* F12-388
- Fishery and fur industries of Alaska in 1912. (*Contents*.—General administrative report, by B. W. Evermann. Fishery industries, by Fred M. Chamberlain and Ward T. Bower. Fur-seal service, by Walter Lembkey. Minor fur industries, by Harry J. Christoffers and Lee R. Dice.) Report and special papers, 1912 (1914), 123 p. *Doc. 780 issued Nov. 6, 1913.* F12-388
- Alaska fisheries and fur industries in 1913. (*Contents*.—General administrative report, by B. W. Evermann. Fishery industries, by Ward T. Bower and Harry Clifford Fassett. Fur-seal service, by Walter I. Lembkey.) Appendix II, Report, 1913 (1914), 172 p. *Doc. 797 issued Aug. 29, 1914.* F12-388
- Friele, M.:** [Seal fisheries of Norway in 1877.] Report 1877 (1879), p. 735-736.
- Hanna, G. Dallas:** Fur-seal census, Pribilof Islands, 1918, 1919. In *Alaska fisheries and fur industries in 1918, 1919*. Appendix V, Report, 1918 (1920), p. 116-128; Appendix IX, Report, 1919 (1921), p. 106-117. F12-388
- Heath, Harold:** Special investigation of the Alaska fur-seal rookeries, 1910. Report and special papers, 1910 (1911), 22 p. *Doc. 748 issued Nov. 10, 1911.* F11-374
- Jones, Ernest Lester:** Report of Alaska investigations in 1914. 1915. 155 p., illus. F15-10
- Lembkey, Walter:** [The fur-seal fisheries: p. 54-58.] In *The fisheries of Alaska in 1909*, by Millard Caleb Marsh and John N. Cobb. Report and special papers, 1909 (1910), 55 p.
- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1907. (Fur-seals: p. 57-59.) Report and special papers, 1907 (1909), 64 p.
- The fisheries of Alaska in 1908. (Fur-seals: p. 73.) Report and special papers, 1909 (1911), 58 p.
- The fisheries of Alaska in 1910. (Fur-seal: p. 56-58.) Report and special papers, 1910 (1911), 65 p.
- Osgood, Wilfred Hudson; Edward Alexander Preble; and George Howard Parker:** The fur-seals and other life of the Pribilof Islands, Alaska, in 1914. (Bibliography, comp. by Rose M. McDonald: p. 149-167.) Bulletin, 1914 (1915), vol. XXXIV, p. 1-72, pl. I-XVIII, 24 maps (part. fold.). *Doc. 820 issued June 19, 1915.* F15-85
- Schultz, A.:** Account of the fisheries and seal-hunting in the White Sea, the Arctic Ocean, and the Caspian Sea. Report, 1873-74 and 1874-75 (1876), p. 35-96.
- Smith, Hugh McCormick:** [Fur-seal fishery.] Report, 1892 (1894), p. CLXXIII-CLXXVI.
- Southwell, Thomas:** Notes on the seal and whale fishery in 1886. Bulletin, 1887 (1889), vol. VII, p. 11-16.
- Stanley-Brown, Joseph:** Past and future of the fur seal. Bulletin, 1893 (1894), vol. XIII, p. 361-370. *Doc. 273 issued June 9, 1894.* F12-183
- Stearns, Winfrid Alden:** [Seals and seal hunting on the coast of Labrador.] Bulletin, 1885 (1885), vol. V, p. 19-25.
- Stejneger, Leonhard:** The Russian fur-seal islands. Bulletin, 1896 (1897), vol. XVI, 148 p., 60 pl. (partly fold.). *Doc. 316 issued Nov. 13, 1896.* F11-354
- Swan, James G.:** The fur-seal industry of Cape Flattery and vicinity. In *The fisheries and fishery industries of the United States*. 1887. Sec. V, vol. 2, pt. XVIII, p. 393-400.
- Townsend, Charles H.:** The American seal herd and pelagic sealing. Report, 1898 (1899), p. CLXIV-CLXV.
- [Condition of the fur-seal fisheries of the Pribilof Islands.] Report, 1900 (1901), p. 177-178.
- [Notes on the London fur-seal trade.] Report, 1902 (1904), p. 158-160.
- Fur seals and the seal fisheries. Bulletin, 1908 (1910), vol. XXVIII, p. 315-322. *Doc. 661 issued February, 1910.* 10-35157
- Townsend, Eben:** [Narrative of an Antarctic sealing voyage in the ship *Neptune*, 1796-1799.] Quoted by Clark in *The fisheries and fishery industries of the United States*. 1887. Sec. V, pt. XVIII, p. 460-467.
- U. S. Bureau of Fisheries:** Truth about the fur-seals of the Pribilof Islands. Statement of Dr. David Starr Jordan and Mr. George A. Clark. 7 p. *Economic Circular 4 issued Dec. 20, 1912.* F13-1
- [Statistics of the Newfoundland seal and herring fisheries for 1914-1915.] Report, 1915 (1917), p. 63.

- U. S. Bureau of Fisheries:** [Statistics of the Alaska fur-seal service in 1917.] Report, 1917 (1919), p. 91-94.
- Wilcox, William A.:** [Pelagic fur-seal fishery of the Pacific coast.] Report, 1893 (1895), p. 201-202.

WHALING.

- Brown, James Temple:** The whale fishery and its appliances. (At head of title: Great International fisheries exhibition. London, 1883. United States of America. E.) 116 p. 8-27229
- [The whale fishery.] Bulletin, 1885 (1885), vol. V, p. 466.
- The whalemens, vessels and boats, apparatus, and methods of the whale fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XV, p. 218-293.
- Chamberlain, Fred M., and Ward T. Bower:** [Whale fishery: p. 67-70.] In Fisheries and fur industries of Alaska in 1912, by B. W. Evermann. Report and special papers, 1912 (1914), 123 p. F12-388
- Clark, A. Howard:** The whale-fishery. History and present condition of the fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XV, p. 1-218.
- Cocks, Alfred Heneage:** The finwhale fishery on the Lapland coast in 1886. Bulletin, 1887 (1889), vol. VII, p. 109-110. F18-659
- Collins, Joseph William:** [Whale fishery of the Pacific coast of the United States.] Report, 1888 (1891), p. 74-91.
- Crèvecoeur, Michel Guillaume St. Jean de, called Saint John de Crèvecoeur:** An account of the whale fishery of Nantucket, Mass., one hundred years ago. (From letters of an American farmer. London, 1782, p. 162-171.) Bulletin, 1883 (1883), vol. III, p. 179-182. F12-378
- Friele, M.:** [Whale fisheries of Norway in 1877.] Report, 1877 (1879), p. 735.
- Glasgow Herald:** [The Greenland whale fishing.] Bulletin, 1885 (1885), vol. V, p. 467.
- Hector, James:** The fisheries of New Zealand. Bulletin, 1884 (1884), vol. IV, p. 53-55. F18-216
- Japan. Bureau of Agriculture:** The fisheries of Japan. Bulletin, 1893 (1894), vol. XIII, p. 419-438. F12-183
- Juel, Niels:** The whale fishery of Norway. Bulletin, 1885 (1885), vol. V, p. 63-64. F18-379
- Sanford, F. C.:** Notes upon the history of the American whale fishery. Report, 1882 (1884), p. 205-220. F16-325
- Smiley, Charles Wesley:** Review of the whale fishery for 1882 and 1883. Report, 1883 (1885), p. 325-336 incl. tables. F17-28
- Smith, Hugh McCormick:** [Statistics of the whale fishery.] Report, 1892 (1894), p. CLXXII-CLXXXIII.
- [Statistics of the whale fishery.] Report, 1893 (1895), p. 71.
- [Pacific whale fishery.] Bulletin, 1894 (1895), vol. XIV, p. 286-287.
- [Statistics of the whale fishery.] Report, 1894 (1896), p. 132.
- Southwell, Thomas:** The bottle-nose whale fishery in the North Atlantic Ocean. Report, 1882 (1884), p. 221-227. F16-330
- Notes on the seal and whale fishery in 1886. Bulletin, 1887 (1889), vol. VII, p. 11-16.
- Starbuck, Alexander:** History of the American whale fishery from its earliest inception to the year 1876. (Index to voyages by vessels' names: p. 711-763.) Report, 1875-76 (1878), 779 p. incl. plates, VI pl. F16-68
- Statistics of whaling, cod-fishing, and salmon packing on the Pacific coast.** Bulletin, 1886 (1887), vol. VI, p. 89-90 incl. tables. F18-544
- Stearns, Winfrid Alden:** The Labrador fisheries. Bulletin, 1885 (1885), vol. V, p. 6-27. F18-366
- Svend Foyn's whaling establishment.** Report, 1883 (1885), p. 337-340. F17-29
- Townsend, Charles Haskins:** Present condition of the California whale fishery. Bulletin, 1886 (1887), vol. VI, p. 346-350, pl. VI-VII. F18-609
- [Statistics of the whale fishery.] Report, 1899 (1900), p. CL.
- [Statistics of the whale fishery.] Report, 1900 (1901), p. 178.
- U. S. Commissioner of Fisheries:** [Statistics of the whale fishery.] Report, 1906 (1908), p. 18.
- Wilcox, William A.:** [Whale fisheries of the Pacific coast. Report 1893 (1895), p. 202-206.
- [Statistics of the whale fisheries of the Pacific coast in 1904.] Report and special papers, 1905 (1907), p. 140-141.

PRODUCTS.

PRESERVATION OF PRODUCTS.

GENERAL.

- Stevenson, Charles Hugh:** Aquatic products in arts and industries. Fish oils, fats, and waxes. Fertilizers from aquatic products. Report, 1902 (1904), p. 177-279, pl. 10-25. *Doc. 536 issued Sept. 26, 1903.* F11-3
- Utilization of the skins of aquatic animals. Report, 1902 (1904), p. 281-352, pl. 26-38. *Doc. 537 issued Sept. 28, 1903.* F11-4
- Williams & Co.:** [The value of a whale.] Bulletin, 1884 (1884), vol. IV, p. 360.

AMBERGRIS.

- Stevenson, Charles Hugh:** [Ambergris.] Report, 1902 (1904), p. 247-252.

FURS.

- Cobb, John Nathan:** The commercial fisheries of Alaska in 1905. (Aquatic furs: p. 29-33.) Report and special papers, 1905 (1907), 46 p.
- Cobb, John Nathan, and Howard M. Kutchin:** The fisheries of Alaska in 1906. (Aquatic furs: p. 56-58.) Report and special papers, 1906 (1908), 70 p.
- Marsh, Millard Caleb, and John Nathan Cobb:** The fisheries of Alaska in 1907. (Aquatic furs: p. 55-59.) Report and special papers, 1907 (1909), 64 p.
- The fisheries of Alaska in 1908. (Aquatic furs: p. 71-73.) Report and special papers, 1908 (1910), 78 p.
- The fisheries of Alaska in 1909. (Aquatic furs: p. 54-57) Report and special papers, 1909 (1911), 58 p.
- The fisheries of Alaska in 1910. (Aquatic furs: p. 54-58) Report and special papers, 1910 (1911), 65 p.
- Stevenson, Charles Hugh:** Utilization of the skins of Aquatic animals. Report 1902 (1904), p. 281-352, pl. 26-38. *Doc. 537 issued Sept. 28, 1903.* F11-4
- Willson, J. M.:** Florida fur-farming. Bulletin, 1897 (1898), vol. XVII, p. 369-371. *Doc. 396 issued Aug. 8, 1898.* F12-183

OIL.

- Habershaw, Frederick:** Bringing whale oil from the Pacific to New York. Bulletin, 1882 (1883), vol. II, p. 215. F18-97
- Oil, paint, and drug reporter:** [Whale and sperm oils.] *Quoted by Clark in The fisheries and fishery industries of the United States.* 1887. Sec. V, vol. 2, pt. XV, p. 162-164.
- Sparks, George L.:** Porpoise products. Bulletin, 1885 (1885), vol. V, p. 415-416. F18-486
- [Porpoise oil.] Bulletin, 1885 (1885), vol. V, p. 415.
- Stevenson, Charles Hugh:** [Oil from blackfish.] Report, 1902 (1904), p. 209-268.
- Stull, D. C.:** [Oil from blackfish.] Bulletin, 1885 (1885), vol. V, p. 91.
- True, Frederick William:** [Porpoise oil.] Bulletin, 1885 (1885), vol. V, p. 5.

MISCELLANEOUS.

- Cobb, John Nathan:** Commercial fisheries of Alaska in 1905. (Miscellaneous aquatic animals: p. 33-38.) Report and special papers, 1905 (1907), 46 p.
- Cobb, John Nathan, and Howard M. Kutchin:** The fisheries of Alaska in 1906. (Miscellaneous aquatic mammals: p. 59.) Report and special papers, 1906 (1908), 70 p.
- Marsh, Millard C., and John Nathan Cobb:** The fisheries of Alaska in 1907. (Miscellaneous aquatic mammals: p. 59-61.) Report and special papers, 1907 (1909), 64 p.
- The fisheries of Alaska in 1908. (Miscellaneous aquatic products and resources: p. 74-77.) Report and special papers, 1908 (1910), 78 p.
- The fisheries of Alaska in 1910. (Miscellaneous aquatic mammals: p. 58-60.) Report and special papers, 1910 (1911), 65 p.
- Stevenson, Charles Hugh:** [Spermaceti.] Report 1902 (1904), p. 244.
- Whalebone: its production and utilization. Report and special papers, 1906 (1908), 12 p. *Doc. 626 issued Oct. 30, 1907.* 7-35395

PRODUCTS AS FOOD.

- Radcliffe, Lewis:** Whales and porpoises as food. (With thirty-two recipes furnished by American Pacific Whaling Co., Mrs. Evelene Spencer; Delmonico; chef, Neuces hotel, Corpus Christi; Victory kitchen, San Antonio; Gedney's restaurant, San Marcos; and Mrs. Charles S. Smith.) 10 p. *Economic Circular 38* issued Nov. 6, 1918. F18-700.
- Sparks, George L.:** [Porpoise as food.] Bulletin, 1885 (1885), vol. V, p. 215.
- Sterling, Williams:** [Extract of whale flesh.] Quoted by Stevenson. Bulletin, 1898 (1899), vol. XVIII, p. 550-551.

LEGISLATION.

- Brice, John J.:** [Law enacted by Bering Sea arbitration tribunal for protection of fur seals.] Report, 1894 (1896), p. 573.
- Christoffers, H. J. and Lee R. Dice:** [Observance of the fur law and regulations: p. 122.] In Fishery and fur industries of Alaska in 1912. Report and special papers, 1912 (1914), 123 p. F18-7
- Protection of whales.** Bulletin, 1881 (1882), vol. I, p. 17-19. F18-7
- Rathbun, Richard:** Modus vivendi prohibiting pelagic sealing. Report, 1892 (1894), p. LXXXIX-XC. 10-35457
- U. S. Commissioner of Fisheries:** Laws and regulations relative to fur-seal fishing. (Act of Congress approved Dec. 29, 1897.) Report and special papers, 1909 (1911), 7 p. Doc. 732 issued Mar. 11, 1910. 10-35457
- [Treaty affecting the fur-seals.] Report, 1911 (1913), p. 59-60.
- U. S. President (Wilson):** [Proclamation for preservation and protection of fur seals.] Quoted in Report, 1913 (1914), p. 72-73.

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- Brakeley, John H.:** Notes on carp and frog culture. Bulletin, 1885 (1885), vol. V, p. 209-216. F18-409
- Chamberlain, Frederick M.:** Notes on the edible frogs of the United States and their artificial propagation. Report, 1897 (1898), p. 249-261, illus. *Doc. 348 issued Sept. 15, 1897.* Also in Manual of fish-culture, rev. ed., 1900, p. 249-261, illus.
- Clark, H. Walton, and John B. Southall:** Fresh-water turtles: a source of meat supply. Appendix VII, Report, 1919 (1921), 20 p., VIII pl. *Doc. 889 issued July 30, 1920.* F20-157
- Downman, R. H.:** What frogs sometimes eat. Bulletin, 1883 (1883), vol. III, p. 392. F18-150
- Dukehart, J. P.:** Transfer of soft-shell terrapin from the Ohio to the Potomac River. Bulletin, 1884 (1884), vol. IV, p. 143. F18-252
- Evermann, Barton Warren:** [Annotated list of batrachians collected in Montana and Wyoming.] Bulletin, 1891 (1893), vol. XI, p. 57-59.
- [Frog-farming.]** Bulletin, 1885 (1885), vol. V, p. 339.
- Green, Seth:** Frog-culture. Report, 1872 and 1873 (1874), p. 587-588. F15-121
- Hay, William Perry:** A revision of *Malaclemmys*, a genus of turtles. Bulletin, 1904 (1905), vol. XXIV, p. 3-19, col. front., XII pl. (partly col.). *Doc. 557 issued Feb. 8, 1908.* F12-1
- Hay, William Perry, and Henry D. Aller:** Artificial propagation of the diamond-back terrapin. 14 p., illus. *Economic Circular 5 issued June 24, 1918.* F13-225
- Artificial propagation of the diamond-back terrapin. 21 p., illus. *Economic Circular 5, revised, issued Mar. 17, 1917.* F17-154
- Japan. Bureau of Agriculture:** The [turtle] fisheries of Japan. Bulletin, 1893 (1894), vol. XIII, p. 421. F12-183
- Kirsch, Philip H.:** A report upon explorations made in Eel River basin in the north-eastern part of Indiana in the summer of 1892. Bulletin, 1894 (1895), vol. XIV, p. 31-41. *Doc. 235 issued Mar. 24, 1894.* F12-175
- [Batrachians from the Maumee River basin.] Bulletin, 1894 (1895), vol. XIV, p. 333.
- [List of reptiles from the Maumee River basin.] Bulletin, 1894 (1895), vol. XIV, p. 333.
- McGehee, Montford:** [Terrapin culture in North Carolina.] Bulletin, 1885 (1885), vol. V, p. 467.
- Mitsukuri, Kakichi:** [The snapping turtle, or soft-shell tortoise, "suppon."] Bulletin, 1904 (1905), vol. XXIV, p. 260-266, illus., pl. II-III.
- Monroe, Ralph M.:** The green turtle, and the possibilities of its protection and consequent increase on the Florida coast. Bulletin, 1897 (1898), vol. XVII, p. 273-275. *Doc. 380 issued Aug. 8, 1898.* F12-110
- Parramore, T. H.:** [Diamond-backed terrapin.] Bulletin, 1885 (1885), vol. V, p. 77-78.
- Smith, Hugh McCormick:** [Notes on the alligator industry of Florida.] Bulletin, 1891 (1893), vol. XI, p. 343-345.
- [Terrapin and terrapin fishing in California.] Bulletin, 1894 (1895), vol. XIV, p. 281-282.
- Test, Frederick C.:** [Batrachians and reptiles collected in Missouri and Texas in 1891.] Bulletin, 1892 (1894), vol. XII, p. 121-122.
- True, Frederick William:** The useful aquatic reptiles and batrachians of the United States. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. II, p. 137-162. *Doc. 222 issued Nov. 2, 1893.* F12-298
- [The alligator and the crocodile.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. II, p. 141-146.
- [Economic use of alligators.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. II, p. 146.
- [Tortoises, turtles and terrapins.] In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. II, p. 147-158.

- True, Frederick William:** [Economic value of the tortoises, turtles, and terrapins.] In *The fisheries and fishery industries of the United States*. 1884. Sec. I, pt. II, p. 148, 149, 151, 152, 153, 154, 157.
- [The bull-frog.] In *The fisheries and fishery industries*. 1884. Sec. I, pt. II, p. 159-162.
- [Frogs as food.] In *The fisheries and fishery industries of the United States*. 1884. Sec. I, pt. II, p. 160-162.
- The turtle and terrapin fisheries. In *The fisheries and fishery industries of the United States*. 1887. Sec. V, pt. XVIII, p. 493-503.
- U. S. Bureau of Fisheries:** [Cultivation of the diamond-back terrapin.] Report, 1914 (1915), p. 67 1915 (1917), p. 35-36.
- Van Denburg, John:** [Annotated list of batrachians and reptiles in Columbia River basin.] Bulletin, 1894 (1895), vol. XIV, p. 206-207.
- Wright, A. H.:** Frogs: their natural history and utilization. Appendix VI, Report, 1919 (1921), 44 p., illus., XXII pl. *Doc. 888 issued July 29, 1920.* F20-156

BIRDS.

- American birds, animals, and fishes for New Zealanders.** Bulletin, 1881 (1882), vol. I, p. 53-54.
- Collins, Joseph William:** Notes on the habits and methods of capture of various species of sea birds that occur on the fishing banks off the eastern coast of North America, and which are used as bait for catching codfish by New England fishermen. Report, 1882 (1884), p. 311-338, pl. F16-311
- Fisher, Walter Kenrick:** Birds of Laysan and the Leeward Islands, Hawaiian group. Bulletin, 1903 (1906), vol. XXIII, part III, p. 767-807, col. front., illus., 10 pl. *Doc. 543 issued Sept. 18, 1903.* F11-379
- Hanna, G. Dallas:** [Birds of Pribilof Islands: p. 105-107.] In *Alaska fisheries and fur industries in 1918*. Appendix V, Report, 1918 (1920). F18-412
- Harvie-Brown, J. A.:** On the migration of birds in the spring and autumn of 1884. Bulletin, 1885 (1885), vol. V, p. 221-224. F18-412
- Slade, Elisha:** Dates of the appearance of herring, shad, bass, tautog, scup, fish-hawk, kingfishers, and Greenland seals in Tauton River from 1871 to 1883, inclusive. Bulletin, 1883 (1883), vol. III, p. 478. F18-201
- [White herons eat their weight.] Bulletin, 1885 (1885), vol. V, p. 341.

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Section 2.—MOLLUSKS (NOT INCLUDING OYSTERS)

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BIBLIOGRAPHIES.

- Stevenson, Charles Hugh:** A bibliography of publications in the English language relative to oysters and the oyster industries. Report, 1892 (1894), p. 305-359. *Doc. 286 issued Dec. 26, 1894.* F14-57
- [Chronological list of publications relative to the oyster industry of Maryland.] Bulletin, 1892 (1894), vol. XII, p. 296-297.
- U. S. Commissioner of Fisheries:** [List of important works on oysters published during 1883.] Report, 1883 (1885), p. XC-XCII.

GENERAL.

- Ingersoll, Ernest, and John Adam Ryder:** Natural history of economic mollusks of the United States. *In* The fisheries and fishery industries of the United States. 1884. Sec. I, pt. IV, p. 687-758, pl. 253-259. *Doc. 223 issued Nov. 16, 1893.* F12-294
- Moser, Jefferson F.:** [Description of oyster banks.] Report, 1897 (1898), p. CLXX.
- Verrill, Addison Emory:** Report on the invertebrate animals of Vineyard Sound and adjacent waters, with an account of the physical features of the region. Report, 1871 and 1872 (1873), p. 295-778, XXXVIII pl. F15-102

PHYSIOLOGY.

NUTRITION.

- Mitchell, Philip Henry:** Nutrition of oysters, glycogen formation and storage. Bulletin, 1915-16 (1918), vol. XXXV, p. 153-161. *Doc. 851 issued Apr. 11, 1917.* F17-248
- The nature of the so-called "fattening" of oysters. Bulletin, 1915-16 (1918), vol. XXXV, p. 477-483. *Doc. 860 issued Mar. 13, 1918.* F18-514

GROWTH.

- Churchill, E. P.:** [Growth of the oyster.] Appendix VIII, Report, 1919 (1921), p. 14.
- Glaser, O. C.:** [Observations and experiments on the growth of the oyster.] Report, 1903 (1905), p. 329-341, incl. tables, fold. map.
- Möbius, Karl:** [Size of shell of full grown oyster.] Report, 1880 (1883), p. 715.
- Moore, Henry Frank:** [Rate of growth of the oyster.] Report, 1897 (1898), p. 274-275; also *in* Manual of fish-culture, rev. ed., 1900, p. 274-275.
- [Rate of growth of Louisiana oysters.] Report, 1898 (1899), p. 89-90.
- [Anatomy, embryology, and growth of the oyster.] Report, 1903 (1905), p. 317-327, incl. tables, illus., pls.
- Ryder, John Adam:** Journal of operations on the grounds of the Eastern Shore oyster company, Chincoteague Bay, near Stockton, Md., during the summer of 1883. Bulletin, 1884 (1884), vol. IV, p. 43-47. F18-210
- The rate or growth of oysters at St. Jeromes Creek station. Bulletin, 1885 (1885), vol. V, p. 129-131. F18-386

FOOD.

- Churchill, E. P.:** [Food of the oyster.] Appendix VIII, Report, 1919 (1921), p. 19, 35.
- Dean, Bashford:** [Food of the South Carolina oyster.] Bulletin, 1890 (1892), vol. X, p. 345-350.
- Everman, Barton Warren:** [Experiments in oyster fattening at Lynnhaven, Va.] Report, 1904 (1905). p. 81.
- Grave, Caswell:** [Oyster food in North Carolina waters.] Report, 1903 (1905), p. 283-292.
- Lotsey, Johannes Paulus:** The food of oysters, clams, and ribbed mussels. Report, 1893 (1895), p. 375-385, illus. *Doc. 313 issued 1896.* 6-44419
- Mitchell, Philip Henry, and Raymond L. Barney:** The occurrence in Virginia of green-gilled oysters similar to those of Marennes. (Bibliography: p. 149.) Bulletin, 1915-16 (1918), vol. XXXV. p. 137-149. *Doc. 850 issued Aug. 11, 1917.* F17-247
- Moore, Henry Frank:** [Food for oysters.] Bulletin, 1897 (1898), vol. XVII, p. 278-279.
- [Food of the oyster.] Report, 1897 (1898), p. 286-288; also *in* Manual of fish-culture, rev. ed., 1900, p. 286-288.
- Survey of oyster bottoms in Matagorda Bay, Texas. (Food of the oyster: p. 68-81.) Report, 1905 (1907), 86 p., pl., chart.
- Volumetric studies of the food and feeding of oysters. Bulletin, 1908 (1910), vol. XXVIII, p. 1295-1308, pl. CXXV, diagrs. *Doc. 719 issued 1910.* 10-35650

- Moore, Henry Frank:** Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Alabama. (Food: p. 53-54.) Report and special papers, 1911 (1913), 61 p. *Doc. 769 issued Mar. 15, 1913.* F13-48
- Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. (Food: p. 32-33.) Report and special papers, 1911 (1913), 41 p., VI pl., fold. map. *Doc. 774 issued May 16, 1913.* F13-72
- Moore, Henry Frank, and T. E. B. Pope:** Oyster-culture experiments and investigations in Louisiana. (Food: p. 43.) Report and special papers, 1908 (1910), 52 p., VIII pl. *Doc. 731 issued May 14, 1910.* 10-35661
- Ryder, John Adam:** Answers to questions about fattening oysters. Bulletin, 1885 (1885), vol. V, p. 416.
- [On what does the oyster feed?] Bulletin, 1881 (1882), vol. I, p. 409-410.
- [Food of the fry and spat.] Report, 1885 (1887), p. 387.
- Smeltz, H. A.:** [Food of the oyster.] Bulletin, 1897 (1898), vol. XVII, p. 307.
- Winslow, Francis:** [Food of the embryo.] Report, 1882 (1884), p. 755-756.

ENVIRONMENTAL FACTORS.

- Churchill, E. P.:** [Factors of environment.] Appendix VIII, Report, 1919 (1921), p. 14.

CURRENTS AND TIDES.

- Haskell, E. E.:** [Report upon the current observations in Long Island Sound.] Report, 1889-1891 (1893), p. 116-118.
- Moore, Henry Frank:** [Currents and tides an important factor in oyster culture.] Report, 1897 (1898), p. 284-285; also in *Manual of fish-culture*, rev. ed., 1900, p. 284-285.
- Survey of oyster bottoms in Matagorda Bay, Texas. (Tides and currents: p. 51-55.) Report and special papers, 1905 (1907), 86 p., pl., chart. *Doc. 610 issued Mar. 6, 1907.* 7-35165
- Condition and extent of the natural oyster beds of Delaware. (Tides and currents: p. 27.) Report and special papers, 1910 (1911), 29 p. *Doc. 745 issued Feb. 10, 1911.* F11-76
- Swift, Franklin:** [Currents of Apalachicola Bay.] Report, 1896 (1898), p. 200.
- Winslow, Francis:** [Currents necessary to successful oyster culture.] Report, 1882 (1884), p. 752.

DENSITY.

- Dean, Bashford:** [Density of water prevents spat from settling.] Bulletin, 1890 (1892), vol. X, p. 340-344.
- Moore, Henry Frank:** [Physical factors in the oyster problem.] Bulletin, 1897 (1898), vol. XVII, p. 276-277.
- [Required density in oyster culture.] Report, 1897 (1898), p. 281-283; also in *Manual of fish-culture*, rev. ed., 1900, p. 281-283.
- Survey of oyster bottoms in Matagorda Bay, Texas. (Density: p. 57-61.) Report and special papers, 1905 (1907), 86 p., pl., chart.
- Netherlands Zoological Station:** [Tabular statement of density and temperature of water in the eastern Scheldt.] Report, 1880 (1883), p. 1024-1027.
- Ryder, John Adam:** [Necessary density of water in oyster culture.] Bulletin, 1884 (1884), vol. IV, p. 19.
- [Relation of density to hygiene of the oyster.] Report, 1885 (1887), p. 386.
- Swift, Franklin:** [Density of Apalachicola Bay.] Report, 1896 (1898), p. 199-200.
- Winslow, Francis:** [Effect of density upon formation of the generative fluids.] Report, 1882 (1884), p. 751-752.

OXYGEN REQUIREMENTS.

- Verrill, Addison Emory:** How long will oysters live out of water? Bulletin, 1885 (1885), vol. V, p. 161-162. F18-396
- Winslow, Francis:** [Aeration.] Report, 1882 (1884), p. 753.

SALINITY.

- Dean, Bashford:** [Density, important factor in oyster culture.] Bulletin, 1891 (1893), vol. XI, p. 359, 365, 367, 371, 382, 390, 402.
- Möbius, Karl:** [Salinity of water on the coast of Schleswig-Holstein.] Bulletin, 1883 (1883), vol. III, p. 216-217.
- Moore, Henry Frank:** Condition and extent of the natural oyster beds of Delaware. (Salinity: p. 27.) Report and special papers, 1910 (1911), 29 p. fold. map. *Doc. 745 issued Feb. 10, 1911.* F11-76

- Moore, Henry Frank:** Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Alabama. (Salinity: p. 52.) Report and special papers, 1911 (1913), 61 p. *Doc. 769 issued Mar. 15, 1913.* F13-48
- Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. (Salinity: p. 30-32.) Report and special papers, 1911 (1913), 41 p., VI pl., fold. map. *Doc. 774 issued May 16, 1913.* F13-72
- Moore, Henry Frank, and Ernest Danglade:** Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. (Salinity: p. 39-40.) Appendix II, Report, 1914 (1915), 45 p. *Doc. 809 issued Feb. 13, 1915.* F15-15
- Moore, Henry Frank, and T. E. B. Pope:** Oyster-culture experiments and investigations in Louisiana. (Salinity: p. 14, 17, 27, 36, 41.) Report and special paper, 1908 (1910), 52 p., VIII pl. *Doc. 731 issued May 14, 1910.* 10-35661
- Ryder, John Adam:** [Necessary salinity of water in oyster culture.] Bulletin, 1884 (1884), vol. IV, p. 19.

TEMPERATURE.

- Moore, Henry Frank:** [Physical characters of the Gulf States favorable to oyster culture.] Bulletin, 1897 (1898), vol. XVII, p. 277.
- [Temperature an important factor in oyster culture.] Report, 1897 (1898), p. 280-281, also in *Manual of fish-culture*, rev. ed., 1900, p. 280-281.
- Survey of oyster bottoms in Matagorda Bay, Texas. (Temperature: p. 55-56.) Report and special papers, 1905 (1907), 86 p., pl., chart. *Doc. 610 issued Mar. 6, 1907.* 7-35165
- Moore, Henry Frank, and Ernest Danglade:** Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. (Temperature: p. 39-40.) Appendix II, Report, 1914 (1915), 45 p. *Doc. 809 issued Feb. 13, 1915.* F15-15
- Rasch, H. H.:** [Cause of the high temperature of Oyster Lake, Norway.] Report, 1880 (1883), p. 1040-1042.
- Ryder, John Adam:** [Influence of temperature in oyster culture.] Report, 1885 (1887), p. 387.
- Townsend, Charles Haskins:** [Temperature of water of San Francisco Bay.] Report, 1889-1891 (1893), p. 345-348.
- [Temperature of Willapa Bay.] Report, 1895 (1896), p. 198-199.
- Winslow, Francis:** [Effect of temperature in oyster culture.] Report, 1882 (1884), p. 749-751.

PATHOLOGY AND PATHOLOGICAL CONDITIONS.

DISEASES AND PESTS.

- Ryder, John Adam:** [Notice of a parasite or commensal of the oyster, with remarks on its distribution.] Bulletin, 1883 (1883), vol. III, p. 292-293.

MORTALITY.

- Hall, Ansley:** [Fermentation injurious to oysters of New Jersey.] Report, 1892 (1894), p. 476.
- Rathbun, R.:** [Mortality of oysters in Galveston Bay.] Report, 1893 (1895), p. 23-26.

POLLUTION.

- Evermann, Barton Warren:** [Contamination of oysters at Great South Bay, Long Island.] Report, 1904 (1905), p. 112-113.
- Fuller, Cabel Allen:** The distribution of sewage in the waters of Narragansett Bay, with special reference to the contamination of the oyster beds. (Bibliography: p. 236-238.) Report, 1904 (1905), p. 189-238. *Doc. 569 issued May 10, 1905.* F10-8
- Mitchell, Philip Henry:** The effect of water-gas tar on oysters. Bulletin, 1912 (1913), vol. XXXII, p. 199-206. *Doc. 786 issued Feb. 18, 1914.* F14-6

ENEMIES.

- Churchill, E. P.:** [Protection against enemies.] Appendix VIII, Report, 1919 (1921), p. 36.
- Collins, J. W.:** [Unfavorable conditions, enemies, etc., of the oysters of Connecticut.] Bulletin, 1889 (1891), vol. IX, p. 482-485.
- Danglade, Ernest:** The flatworm as an enemy of Florida oysters. Appendix V, Report, 1918 (1920), 8 p., II pl. *Doc. 869 issued June 20, 1919.* F19-30
- Dean, Bashford:** [Messmates and enemies.] Bulletin, 1890 (1892), vol. X, p. 351-352.

- Depredations to oyster beds by starfish. Bulletin, 1884 (1884), vol. IV, p. 138. F18-247
- Garman, Samuel: Protecting the oyster beds from starfish depredations. Bulletin, 1885 (1885), vol. V, p. 127-129. F18-385
- Grave, Caswell: [Bucephalus an enemy of oysters.] Report, 1903 (1905), p. 270-271.
- Hall, Ansley: [Enemies of the oyster.] Report, 1892 (1894), p. 476.
- Hausser, A. E.: [Enemies of the oyster; crabs, murex periwinkle, rays, shrimp, starfish, seaworm.] Report, 1880 (1883), p. 978-981.
- Hoek, P. P. C.: [Occurrence of the "drill" (Murex) in oysters imported into the Netherlands.] Report, 1880 (1883), 1021-1023.
- Horst, R.: [Actiniae, a possible enemy of the oyster.] Bulletin, 1882 (1883), vol. II, p. 165-166.
- Martin, S. J.: [Starfish depredations.] Bulletin, 1885 (1885), vol. V, p. 77.
- Moore, Henry Frank: [Enemies of oysters.] Bulletin, 1897 (1898), vol. XVII, p. 279.
- [Enemies of oysters.] Report, 1897 (1898), p. 283-291; also in Manual of fish-culture rev. ed., 1900, p. 289-291.
- [Destructive agencies. The conch, drumfish, ray, stone crab, boring sponge, boring clam, algæ.] Report, 1898 (1899), p. 91-95.
- Survey of oyster bottoms in Matagorda Bay, Texas. (Enemies of the oyster: p. 63-68.) Report and special papers, 1905 (1907), 86 p., pl., chart. Doc. 610 issued Mar. 6, 1907. 7-35165
- Condition and extent of the natural oyster beds of Delaware. (Enemies: p. 28-29.) Report and special papers, 1910 (1911), 29 p. Doc. 745 issued Feb. 10, 1911. F11-76
- Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Alabama. (Enemies: p. 54-56.) Report and special papers, 1911 (1913), 61 p. Doc. 769 issued Mar. 15, 1913. F13-48
- Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. (Enemies: p. 33-34.) Report and special papers, 1911 (1913), 41 p., VI pl., fold. map. Doc. 774 issued May 16, 1913. F13-72
- Moore, Henry Frank, and Ernest Danglade: Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. (Enemies: p. 41-42.) Appendix II, Report, 1914 (1915), 45 p. Doc. 809 issued Feb. 13, 1915. F15-15
- Moore, Henry Frank, and T. E. B. Pope: Oyster culture experiments and investigations in Louisiana. (Porpura: p. 23-27.) Report and special papers, 1908 (1910), 52 p., VIII pl. Doc. 731 issued May 14, 1910. 10-35661
- Rathbun, Richard: [Injury to oyster beds by drills and starfish.] Report, 1883-89 (1892), p. LXI.
- [Injury to oyster beds in Long Island Sound by starfish.] Report, 1889-1891 (1893), p. 112-115.
- Renaud, J.: [Protecting oysters from their enemies.] Report, 1880 (1883), p. 936-941.
- Rowe, Henry C.: [Enemies of the oyster.] Bulletin, 1893 (1894), vol. XIII, p. 275.
- Ruge, John G.: [Enemies of oysters.] Bulletin, 1897 (1898), vol. XVII, p. 293.
- Ryder, John Adam: [Enemies of oysters.] Bulletin, 1883 (1883), vol. III, p. 289.
- Smith, Hugh McCormick: [Enemies of the oysters in Louisiana.] Report, 1898 (1899), p. CXXIV.
- [Inquiry regarding destruction of oysters by drumfish.] Report, 1902 (1904), p. 123-124.
- Townsend, Charles Haskins: [Enemies of the oyster: sting ray, drill, starfish.] Report, 1889-91 (1893), p. 348-350.
- U. S. Commissioner of Fisheries: [Oyster enemies.] Report, 1911 (1913), p. 20.

ABNORMAL COLORATION.

GREEN.

- Coste, Jean Jacques Marie Cyprian Victor: [Green oysters of Marenne.] Report, 1880 (1883), p. 834-845.
- Dean, Bashford: [Greening oysters in claires.] Bulletin, 1890 (1892), vol. X, p. 378-380.
- Grave, Caswell: [Greengill oysters in Goose Creek Bay, N. C.] Report, 1903 (1905), p. 274-275.
- Hall, Ansley: [Green oysters in New Jersey in 1892.] Report, 1892 (1894), p. 487-489.
- Hausser, A. E.: [Cause of green oysters in Morbihan.] Report, 1880 (1883), p. 987-988.
- Mitchell, Philip Henry, and Raymond L. Barney: The occurrence in Virginia of green-gilled oysters similar to those of Marennes. (Bibliography: p. 149.) Bulletin, 1915-16 (1918), p. 135-150. Doc. 850 issued Aug. 11, 1917. F17-247

- Moore, Henry Frank:** [Green color of oysters.] Report, 1897 (1898), p. 337; also in *Manual of fish-culture*, rev. ed., 1900, p. 337.
- Nelson, Julius:** [Cause of viridity of New Jersey oysters.] *Quoted by Hall.* Report, 1892 (1894), p. 489-490.
- Puységur, M., and John A. Ryder:** [On the cause of the greening of oysters, by M. Puységur, with a supplementary note on the coloration of the blood-corpuscles of the oyster, by John A. Ryder.] Report, 1882 (1884), p. 793-805.
- Ryder, John Adam:** [Cause of green coloration.] Bulletin, 1881 (1882), vol. I, p. 410-419.
- [Popular delusion regarding green-gilled oysters.] Bulletin, 1883 (1883), vol. III, p. 294.
- [Green oysters.] Report, 1885 (1887), p. 420-421.
- Smith, Hugh McCormick:** [Green-gill oysters of the Chesapeake Bay.] Report, 1898 (1899), p. CXXVII-CXXVIII.

RED.

- Smith, Hugh McCormick:** [Peridinium as a possible cause.] Report, 1898 (1899), p. CXXVIII-CXXIX.

EMBRYOLOGY.

- Bouchon-Brandely, Germain:** Report relative to the generation and artificial fecundation of oysters, addressed to the minister of the marine and the colonies. (Tr. with notes, by John A. Ryder.) Bulletin, 1882 (1883), vol. II, p. 316-338. F12-366
- On the sexuality of the common oyster (*O. edulis*) and that of the Portuguese oyster (*O. angulata*). Artificial fecundation of the Portuguese oyster. (Tr. by John A. Ryder.) Bulletin, 1882 (1883), vol. II, p. 339-341. F12-367
- Report on the artificial fecundation and generation of oysters. Bulletin, 1886 (1887), vol. VI, p. 223-240, pl. II-V. F18-584
- Brooks, W. K.:** [Embryonic development of the oyster.] *Quoted by Moore.* Report, 1897 (1898), p. 270-272; also in *Manual of fish-culture*, rev. ed., 1900, p. 271-272.
- Churchill, E. P.:** [Embryology of oyster.] Appendix VIII, Report, 1919 (1921), p. 12.
- Colson, C. Bunting:** [Spawning season of the raccoon oyster.] Bulletin, 1890 (1892), vol. X, p. 352.
- Hoek, Paulus Peronius Cato:** Researches on the generative organs of the oyster (*O. edulis*). Bulletin, 1882 (1883), vol. II, p. 343-345. F12-369
- Comparative examination of cultivated and uncultivated oysters, with a view to determine the number which, during the first year, took part in reproduction. Bulletin, 1885 (1885), vol. V, p. 193-196. F18-406
- Horst, Rutger:** A contribution to our knowledge of the development of the oyster (*Ostrea edulis* L.). (Tr. by J. A. Ryder.) Bulletin, 1882 (1883), vol. II, p. 159-167, illus. F12-355
- The development of the oyster (*Ostrea edulis* L.). Report, 1884 (1886), p. 891-911, II pl. F17-136
- Huxley, Thomas H.:** [Embryonic development of the oyster.] *Quoted by Moore.* Report, 1897 (1898), p. 272-273; also in *Manual of fish-culture*, rev. ed., 1900, p. 272-273.
- Laurent, Pierre:** [Report on experiments at fecundation.] Bulletin, 1886 (1887), vol. VI, p. 228-240.
- Möbius, Karl August:** [Reproduction of the oyster.] Report, 1880 (1883), p. 692-696.
- Moore, Henry Frank:** [Reproduction and development of the oyster.] Report, 1897 (1898), p. 267-280; also in *Manual of fish-culture*, rev. ed., 1900, p. 267-280.
- [Anatomy, embryology, and growth of the oyster.] Report, 1903 (1905), p. 317-327 incl. tables, illus., pls. 7-35165
- Survey of oyster bottoms in Matagorda Bay, Texas. (Spaw ug of the oyster: p. 81-82.) Report and special papers, 1905 (1907), 86 p., pl., chart. Doc. 610 issued Mar. 6, 1907.
- Ryder, John Adam:** Notes on the breeding, food, and green color of the oyster. Bulletin, 1881 (1882), vol. I, p. 403-419. F12-339
- The microscopic sexual characteristics of the American, Portuguese, and common oyster of Europe compared. Bulletin, 1882 (1883), vol. II, p. 205-215. F12-358
- On mode of fixation of the fry of the oyster. Bulletin, 1882 (1883), vol. II, p. 383-397, illus. F12-376
- Rearing oysters from artificially fertilized eggs, together with notes on pond culture. Bulletin, 1883 (1883), vol. III, p. 281-294. F18-137
- A contribution to the life-history of the oyster. In *The fisheries and fishery industries of the United States*. 1884. Sec. I, pt. IV, p. 711-758.

- Ryder, John Adam:** [Artificial fertilization.] Report, 1885 (1887), p. 385, 399-400.
Ryder, John Adam, and M. Puységur: Papers on the development and greening of the oyster. (*Contents*.—1. An account of experiments in oyster culture and observations relating thereto, by Ryder. 2. On the cause of the greening of oysters, by Puységur, with a supplementary note on the coloration of the blood corpuscles of the oyster, by Ryder.) Report, 1882 (1884), p. 763-805, illus. *Doc. 91 issued Feb. 7, 1885.* F11-304

ANATOMY

- Brooks and Ryder:** [Anatomy of the oyster.] *Quoted by Moore.* Report, 1897 (1898), p. 276-279, pl.; also in *Manual of fish-culture*, rev. ed., 1900, p. 276-279, pl.
 — [Anatomy of the oyster.] *Quoted by Moore.* Report, 1903 (1905), p. 317-327 incl. tables, illus., pls.
Churchill, E. P.: [Anatomy of the oyster.] Appendix VIII, Report, 1919 (1921), p. 9.
Hoek, Paulus Peronius Cato: Researches on the generative organs of the oyster (*O. edulis*). Bulletin, 1882 (1883), vol. II, p. 343-345. F12-369
Ryder, John A.: Preliminary notice of some points in the minute anatomy of the oyster. Bulletin, 1882 (1883), vol. II, p. 135-137. F12-352
 — The microscopic characteristics of the American, Portuguese, and common edible oyster of Europe compared. Bulletin, 1882 (1883), vol. II, p. 205-215. F12-358
 — Note on the organ of Bojanus in *Ostrea virginica* Gmelin. Bulletin, 1882 (1883), vol. II, p. 345-347. F12-370

CULTURE.

GENERAL.

- Brooks, W. K.:** On the artificial propagation and cultivation of oysters in floats. Bulletin, 1886 (1887), vol. VI, p. 443-445. F18-627
Buch, S. A.: Oyster-culture as seen at the London fisheries exposition. Report, 1884 (1886), p. 913-923. F17-137
Fraiche, Félix: A practical guide to oyster-culture, and methods of rearing and multiplying edible marine animals. Report, 1880 (1883), p. 753-824, illus. F16-281
Hall, Ansley: Notes on the oyster industry of New Jersey. Report, 1892 (1894), p. 463-528. F14-44
Horst, R.: The development of the oyster (*Ostrea edulis* L.). Report, 1884 (1886), p. 891-911. F17-136
Mather, F.: [Oyster culture in a wooden tank.] Bulletin, 1885 (1885), vol. V, p. 466.
Mitchell, P. H.: Nutrition of oysters; glycogen formation and storage. Bulletin, 1915-16 (1918), vol. XXXV, p. 153-161. *Doc. 851 issued Apr. 11, 1917.* F17-248
 — Nutrition of oysters; the nature of the so-called "fattening" of oysters. Bulletin, 1915-16 (1918), vol. XXXV, p. 479-483. *Doc. 860 issued Mar. 13, 1918.* F18-514
Möbius, Karl: The oyster and oyster-culture. Report, 1880 (1883), p. 683-751, illus. F16-293
Moore, Henry Frank: Oysters and methods of oyster-culture. Report, 1897 (1898), p. 265-338, illus., XVIII pl. *Doc. 349 issued Nov. 13, 1897.* Also in *Manual of fish-culture*, rev. ed. 1900, p. 263-338.
Pierce, H. H.: Some of the difficulties which confront oyster breeders. Bulletin, 1884 (1884), vol. IV, p. 332-333. F18-324
Ryder, John Adam: Notes on the breeding, food, and green color of the oyster. Bulletin, 1881 (1882), vol. I, p. 403-419. F12-329
 — On the mode of fixation of the fry of the oyster. Bulletin, 1882 (1883), vol. II, p. 383-387, illus. F12-376
 — Rearing oysters from artificially fertilized eggs, together with notes on pond culture. Bulletin, 1883 (1883), vol. III, p. 281-294. F18-137
 — On a new form of filter or diaphragm to be used in the culture of oysters in ponds. Bulletin, 1884 (1884), vol. IV, p. 17-31. F13-78
 — Floats for the so-called fattening of oysters. Bulletin, 1884 (1884), vol. IV, p. 302-304. F18-320
 — [An account of experiments in oyster-culture and observations relating thereto (second series).] Report, 1882 (1884), p. 763-778.
 — An exposition of the principles of a rational system of oyster-culture, together with an account of a new and practicable method of obtaining oyster spat in a scale of commercial importance. Report, 1885 (1887), p. 381-423, IV pl. *Doc. 104 issued Sept. 1, 1886.* F11-249

- Ryder, John Adam, and R. M. Bache: On apparatus for collecting oyster spat. Bulletin, 1884 (1884), vol. IV, p. 373-375. F18-335
- Solomon, John I.: A process for preserving the pearl-oyster fisheries and for increasing the value of the yield of pearls. Bulletin, 1908 (1910), vol. XXVIII, p. 303-313, diags, *Doc. 660 issued 1910.* 10-35154
- Winslow, Francis: Memorandum of the present condition and future needs of the oyster industry. Bulletin, 1884 (1884), vol. IV, p. 233-234. F13-101
- Notes upon oyster experiments in 1883. Bulletin, 1884 (1884), vol. IV, p. 354-356. F18-332

UNITED STATES.

GENERAL.

- Broca, P. de: [Oyster culture in the United States.] Report, 1873-74 and 1874-75 (1876), p. 296-299.
- Churchill, E. P.: The oyster and the oyster industry of the Atlantic and Gulf coasts. (Bibliography, p. 50.) Appendix VIII, Report, 1919 (1921), 51p., illus., XXIX pl. *Doc. 890 issued Oct. 12, 1920.* F20-167
- Rathbun, Richard: [Production of seed oysters.] Report, 1892 (1894), p. CVI.

ALABAMA.

- Delchamps, John J.: [Notes respecting oysters of Mobile Bay and sound in Mobile County, Alabama.] Bulletin, 1895 (1896), vol. XV, p. 339.
- Moore, Henry Frank: Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Alabama. Report and special papers, 1911 (1913), 61 p., illus., V pl., fold. chart. *Doc. 769 issued Mar. 15, 1913.* F13-48
- Ritter, Homer P.: Report of a reconnoissance of the oyster beds of Mobile Bay and Mississippi Sound, Alabama. Bulletin, 1895 (1896), vol. XV, p. 325-340, pl. 36-63 (partly fold.). *Doc. 305 issued Apr. 11, 1896.* F12-247

ALASKA.

- Stearns, R. E. C.: Transportation of clams and oysters. Bulletin, 1884 (1884), vol. IV, p. 219-220. F18-289

CALIFORNIA.

- Gilbert, Charles Henry: Report upon certain investigations relating to the planting of oysters in southern California. Bulletin, 1889 (1891), vol. IX, p. 95-98, pl. 31-34 (partly fold.). *Doc. 153 issued July 11, 1891.* F12-141
- Moore, H. F.: [Eastern oysters on the Pacific coast.] Report, 1900 (1901), p. 120-121.
- Rathbun, Richard: [Introduction of oysters in San Francisco Bay.] Report, 1888 (1892), p. LV.
- [Oyster investigation, San Francisco Bay.] Report, 1889 (1893), p. 107-108.
- Stearns, R. E. C.: Transportation of clams and oysters. Bulletin, 1884 (1884), vol. IV, p. 219-220. F18-289

CONNECTICUT.

- Rowe, Henry C.: Deep-water oyster culture. Bulletin, 1893 (1894), vol. XIII, p. 273-276. *Doc. 264 issued June 9, 1894.* F12-183
- Winslow, Francis: Report of experiments in the artificial propagation of oysters, conducted at Beaufort, N. C., and Fair Haven, Conn., in 1882. Report, 1882 (1884), p. 741-761, pl. F16-320

DELAWARE.

- Moore, Henry Frank: Condition and extent of the natural oyster beds of Delaware. Report and special papers, 1910 (1911), 29 p., fold. map. *Doc. 745 issued Feb. 10, 1911.* F11-76

FLORIDA.

- Detwiler, John Y.: [Experimental oyster culture.] Bulletin, 1897 (1898), vol. XVII, p. 311.
- Poincy, J. W. de: Description of a fish-trap and oyster basin. Bulletin, 1885 (1885), vol. V, p. 134. F18-389
- Smeltz, H. A.: The oyster bars of the west coast of Florida, their depletion and restoration. Bulletin, 1897 (1898), vol. XVII, p. 305-308. *Doc. 385 issued Aug. 8, 1898.* F12-110
- Swift, Franklin: The oyster-grounds of the west Florida coast: their extent, condition, and peculiarities. Bulletin, 1897 (1898), vol. XVII, p. 285-287. *Doc. 382 issued Aug. 8, 1898.* F12-110

- Swift, Franklin:** Report of a survey of the oyster regions of St. Vincent Sound, Apalachicola Bay, and St. George Sound, Florida. Report, 1896 (1898), p. 187-221, pl. 22. *Doc. 343 issued 1897.* F11-178

GEORGIA.

- Oemler, A.:** The past, present, and future of the oyster industry of Georgia. Bulletin 1893 (1894), vol. XIII, p. 262-272. *Doc. 264 issued June 9, 1894.* F12-183

LOUISIANA.

- Moore, Henry Frank:** Report on the oyster beds of Louisiana. Report, 1898 (1899), p. 45-100. *Doc. 402 issued Mar. 22, 1899.* F11-114
Moore, Henry Frank, and T. E. B. Pope: Oyster culture experiments and investigations in Louisiana. Report and special papers, 1908 (1910), 52 p., VIII pl. *Doc. 731 issued May 14, 1910.* 10-35661
U. S. Bureau of Fisheries: [Louisiana oyster work.] Report, 1908 (1910), p. 9, 1909 (1911), p. 13.
Zacharie, F. C.: [Manners of cultivation of the Louisiana oyster.] Bulletin, 1897 (1898), vol. XVII, p. 298-299.

MARYLAND.

- Pierce, H. H.:** Some of the difficulties which confront oyster breeders. Bulletin, 1884 (1884), vol. IV, p. 332-333. F18-324
Ravenel, William de Chastignier: [Results of oyster experiments at St. Jerome in 1884.] Bulletin, 1885 (1885), vol. V, p. 73.
 — [Report of operations at St. Jerome station.] Report, 1884 (1886), p. 209-214; 1885 (1887), p. 165-183; 1886 (1889), p. 765-777.
Ryder, John Adam: Journal of operations on the grounds of the Eastern Shore oyster company, on Chincoteague Bay, near Stockton, Md., during the summer of 1883. Bulletin, 1884 (1884), vol. IV, p. 43-47. F18-211
 — Report respecting the present condition and future prospects at St. Jerome Creek for the work of oyster culture. Bulletin, 1884 (1884), vol. IV, p. 235-237. F13-102
Stevenson, Charles Hugh: The oyster industry of Maryland. (Historical notes; p. 251-260.) Bulletin, 1892 (1894), vol. XII, p. 203-297, pl. 56-71. *Doc. 227 issued Feb. 28, 1894.* F12-165
U. S. Commissioner of Fisheries: [Experiments in oyster culture at St. Jerome.] Report, 1882 (1884), p. LXXXIV; 1883 (1885), p. LXXXIX-XCII; 1884 (1886), p. LXV; 1885 (1887), p. C; 1886 (1889), p. XXXIX.
Wood, William Maxwell: Report of operations at Saint Jerome station, in laying out oyster ponds, by steamer *Fish Hawk*, Report, 1883 (1885), p. 1153-1156, tables. F17-42

MASSACHUSETTS.

- Gunnison, James W.:** [Oyster culture in northern Massachusetts.] Bulletin, 1885 (1885), vol. V, p. 77.
U. S. Commissioner of Fisheries: [Experiments in oyster culture at Woods Hole.] Report, 1884 (1886), p. LXV.

MISSISSIPPI.

- Moore, Henry Frank:** Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. Report and special papers, 1911 (1913), 41 p., pl., fold. map. *Doc. 774 issued May 16, 1913.* F12-72

NEW JERSEY

- Hall, Ansley:** Notes on the oyster industry of New Jersey. Report, 1892 (1894), p. 463-528 incl. tables. *Doc. 291 issued Dec. 19, 1894.* F14-44
Ryder, John A.: [Experiments in oyster culture at Sea Island City.] Report, 1893 (1895), p. 26-28.

NEW YORK.

- Blackford, Eugene G.:** Report on an oyster investigation in New York with the steamer *Lookout*. Report, 1885 (1887), p. 157-163. F17-143
Bunce, Henry C.: [Oyster culture at Cold Spring Harbor, New York.] Bulletin, 1885 (1885), vol. V, p. 73.

NORTH CAROLINA.

Grave, Caswell: Investigations for the promotion of the oyster industry in North Carolina. (*Contents*—Investigations for the promotion of the oyster industry of North Carolina, by C. Grave. Anatomy, embryology, and growth of the oyster, by H. F. Moore. Observations and experiments on the growth of oysters, by O. C. Glaser.) Report, 1903 (1905), p. 247-341, XI (*i. e.* X) pl., fold. map. *Doc. 556 issued Feb. 2, 1905.* F11-12

Winslow, Francis: Report of experiments in the artificial propagation of oysters, conducted at Beaufort, N. C., and Fair Haven, Conn., in 1882. Report, 1882 (1884), p. 741-761, pl. F16-320

RHODE ISLAND.

Pettis, Robert: [The time of spawning of oysters in Rhode Island.] Bulletin, 1885 (1885), vol. V, p. 348.

SOUTH CAROLINA.

Battle, John D.: An investigation of the coast waters of South Carolina, with reference to oyster culture. Bulletin, 1890 (1892), vol. X, p. 303-330, pl. LIV-LX. *Doc. 199 issued Nov. 2, 1892.* F12-118

Dean, Bashford: The physical and biological characteristics of the natural oyster grounds of South Carolina. Bulletin, 1890 (1892), vol. X, p. 335-361, pl. LXII-LXVIII. *Doc. 202 issued Dec. 19, 1892.* F12-121

TEXAS.

Kibbe, I. P.: Oysters and oyster culture in Texas. Bulletin, 1897 (1898), vol. XVII, p. 313-314. *Doc. 387 issued 1898.* F12-110

Moore, B. V.: [Proposed oyster planting in a salt lake in Texas.] Bulletin, 1885 (1885), vol. V, p. 73.

Moore, Henry Frank: Survey of oyster bottoms in Matagorda Bay, Texas. Report and special papers, 1905 (1907), 86 p., XIII pl., fold. map. *Doc. 610 issued Mar. 6, 1907.* 7-35165

Moore, Henry Frank, and Ernest Danglade: Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. Appendix II, Report, 1914 (1915), 45 p. *Doc. 809 issued Feb. 13, 1915.* F15-15

Stevenson, Charles Hugh: [Oyster culture in Texas.] Report, 1889-1891 (1893), p. 391-393.

VIRGINIA.

Evermann, Barton Warren: [Oyster fattening experiments at Lynnhaven.] Report, 1904 (1905), p. 81-83.

Moore, Henry Frank: Condition and extent of the oyster beds of the James River, Virginia. Report and special papers, 1909 (1911), 83 p., fold. charts. *Doc. 729 issued 1910.* 10-35064

Smith, Hugh M.: [Report on oyster fattening experiments at Lynnhaven.] Report, 1897 (1898 p.), CIII; 1898, (1899), p. CXXV; 1899 (1900), p. CXXXI-CXXXII; 1900 (1901), p. 119; 1901 (1902), p. 121-122; 1902 (1904), p. 120-123; 1903 (1905), p. 75.

U. S. Bureau of Fisheries: [Artificial method of fattening oysters at Lynnhaven.] Report, 1905 (1907), p. 21-22; 1906 (1908), p. 12; 1907 (1909), p. 10; 1908 (1910), p. 9; 1909 (1911), p. 13; 1910 (1911), p. 16.

WASHINGTON.

Rathbun, Richard: [Oyster investigations and experiments in Willapa Bay.] Report, 1895 (1896), p. 84-86.

Townsend, Charles Haskins: The transplanting of eastern oysters to Willapa Bay, Washington, with notes on the native oyster industry. Report, 1895 (1896), p. 193-202, pl. *Doc. 334 issued Jan. 6, 1897.* F11-197

PACIFIC COAST.

Townsend, Charles Haskins: Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. Report, 1889-1891, (1893), p. 343-372, pl. 2-11 (part. fold.) *Doc. 217 issued Nov. 13, 1893.* F16-84

EUROPE.

GENERAL.

- Dean, Bashford:** Report on the European methods of oyster culture. Bulletin, 1891 (1893), vol. XI, p. 357-406, illus., pl. LXXV-LXXXVIII. *Doc. 214 issued July 14, 1893.* F12-156
- [European methods of oyster culture.] Report, 1893 (1895), p. 30-32.
- Rathbun, Richard:** [Proposed study of European oyster culture.] Report, 1889-1891 (1893), p. 124-125.

BELGIUM.

- Dean, Bashford:** [Oyster culture in Belgium.] Bulletin, 1891 (1893), vol. XI, p. 389-392.

ENGLAND.

- Dean, Bashford:** [Oyster culture in England.] Bulletin, 1891 (1893), vol. XI, p. 393-401.

FRANCE.

- Bouchon-Brandely, Germain:** Report to the minister of marine relative to oyster culture upon the shores of the British channel and the ocean. (Tr. by Marshall McDonald.) Report, 1882 (1884), p. 673-724. F16-309
- Brocchi, Paul:** Report on the condition of oyster culture in France in 1881. Report, 1882 (1884), p. 725-739. F16-310
- Report on the condition of oyster culture in France in 1881. Bulletin, 1884 (1884), vol. IV, p. 97-111. F13-86
- Coste, Jean Jacques Marie Cyprien Victor:** Report on the oyster and mussel industry of France and Italy. Report, 1880 (1883), p. 825-883, XIII pl. F16-277
- Dean, Bashford:** Report on the present methods of oyster culture in France. (List of works relating to French oyster culture; p. 385-388.) Bulletin, 1890 (1892), vol. X, p. 363-388, illus., pl. LXVIII-LXXVIII. *Doc. 203 issued Dec. 19, 1892.* F12-122
- De Bon:** Report on the condition of oyster culture in 1875, preceded by a report to the minister of marine and the colonies. Report, 1880 (1883), p. 885-906. F16-278
- Fraiche, Félix:** A practical guide to oyster culture, and the methods of rearing and multiplying edible marine animals. Report, 1880 (1883), p. 753-824, illus. F16-281
- Hausser, A. E.:** Oyster culture in Morbihan. A report prepared in the name of the commission of the competitive exhibition of Vannes. Report, 1880 (1883), p. 943-999, illus. F16-286
- Möbius, Karl August:** [Oyster culture in France.] Report, 1880 (1883), p. 698-707, illus.
- Rathbun, Richard:** [French methods of oyster culture.] Report, 1892 (1894), p. CXXI-CXXIII.
- Renaud, J.:** An account of the Portuguese and French oysters cultivated in the Bay of Arcachon. Report, 1880 (1883), p. 931-941, illus. F16-304

GERMANY.

- Borne, Max von dem:** [Canadian oysters planted in the Baltic.] Bulletin, 1885 (1885), vol. V, p. 261.
- Dean, Bashford:** [Oyster culture in Germany.] Bulletin, 1891 (1893), vol. XI, p. 370-380, illus.
- Möbius, Karl August:** How can the cultivation of the oyster, especially on the German coasts, be made permanently profitable? Report, 1877 (1879), p. 875-884. F16-124
- Report on planting Canadian oysters, near the island of Aaroe, in the Little Belt, November 6, 1884. Bulletin, 1885 (1885), vol. V, p. 257-260. F18-427
- Rumpff, Carl:** The oyster as a popular article of food in North America. Bulletin, 1884 (1884), vol. IV, p. 356-358. F18-333

HOLLAND.

- Dean, Bashford:** [Oyster culture in Holland.] Bulletin, 1891 (1893), vol. XI, p. 381-388.

ITALY.

- Bouchon-Brandely, Germain:** A report on oyster culture in the Mediterranean. Report, 1880 (1883), p. 907-930. F16-275
- Coste, Jean Jacques Marie Cyprien Victor:** [Artificial oyster beds of Lake Tusaro.] Report, 1880 (1883), p. 825-834.
- Dean, Bashford:** [Oyster culture in Italy.] Bulletin, 1891 (1893), vol. XI, p. 358-366.
- Ninni, Alexander P.:** Fish and oyster culture in the province of Venice. Bulletin, 1886 (1887), vol. VI, p. 177-186. F18-567

NETHERLANDS.

- Hoek, Paulus Peronius Cato:** Oyster cultivation in the Netherlands. Report, 1880 (1883), p. 1029-1035. F16-287
- Nederlandsche Comm. voor het Zoöligsch Station:** Results of the investigations relative to the oyster and its cultivation at the end of the first year of these investigations. Report, 1880 (1883), p. 1001-1027. F16-297

NORWAY.

- Rasch, Halvor Heyerdahl:** On the reason for an extraordinarily rich production of oysters in a natural basin. Report, 1880 (1883), p. 1037-1043. F16-294

PORTUGAL.

- Dean, Bashford:** [Oyster culture in Portugal.] Bulletin, 1891 (1893), vol. XI, p. 366-370.

SPAIN.

- Dean, Bashford:** [Oyster culture in Spain.] Bulletin, 1891 (1893), vol. XI, p. 366-370.

MEDITERRANEAN.

- Bouchon-Brandely, Germain:** A report on oyster culture in the Mediterranean. Report, 1880 (1883), p. 907-930. F16-275

BALTIC.

- Möbius, Karl August:** On experiments, begun in 1880, to plant American oysters in the western Baltic, and the usefulness of continuing these experiments, with the aid of the German fishery association. Bulletin, 1883 (1883), vol. III, p. 213-217. F12-383

JAPAN.

- Dean, Bashford:** Japanese oyster culture. Bulletin, 1902 (1904), vol. XXII, p. 17-38, illus., pl. 3-7. *Doc. 512 issued Feb. 17, 1903.* F12-56
- Mitsukuri, Kakichi:** [Cultivation of the oyster in Japan.] Bulletin, 1904 (1905), vol. XXIV, p. 278-284, illus. XI pl.

OCEANICA.

HAWAII.

- Colburn, John F.:** [Oyster culture in Hawaii.] *Quoted by J. F. Moser.* Report, 1897 (1898), p. CLXX.

NEW ZEALAND.

- Sneed, William:** [Oyster culture in New Zealand.] Bulletin, 1886 (1887), vol. VI, p. 213.

ACCLIMATIZATION.

- Collins, Joseph William:** [First attempt at planting oysters on the Pacific coast.] Report, 1888-89 (1892), p. 154-155.
- Möbius, Karl:** Report on planting Canadian oysters near the island of Aaroe, in the Little Belt, November 6, 1884. Bulletin, 1885 (1885), vol. V, p. 257-260. F18-427

Townsend, Charles Haskins: Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. Report, 1889-1891 (1893), p. 343-372, pl. II-XI (part. fold.). *Doc. 217 issued Nov. 13, 1893.* F16-84

— The transplanting of eastern oysters to Willapa Bay, Washington, with notes on the native oyster industry. Report, 1895 (1896), p. 193-202, pl. *Doc. 334 issued Jan. 6, 1897.* F11-197

Washburn, F. L.: [Observations on transplanted eastern oysters.] *Quoted by H. M. Smith.* Report, 1898 (1899), p. CXXVI-CXXVII.

FISHERIES.

GENERAL.

Goode, G. Brown: The oyster industry of the world. Bulletin, 1884 (1884), vol. IV, p. 468-469. F18-363

Verrill, Addison Emory: How long will oysters live out of water? Bulletin, 1885 (1885), vol. V, p. 161-162. F18-396

UNITED STATES.

Broca, P. de: On the oyster industries of the United States. Report, 1873-74 and 1874-75 (1876), p. 271-319. F16-17

Churchill, E. P.: The oyster and the oyster industry of the Atlantic and Gulf coasts. (Bibliography: p. 50.) Appendix VIII, Report, 1919 (1921), 51 p., illus., XXIX pl. *Doc. 890 issued Oct. 12, 1920.* F20-167

Ingersoll, Ernest: The oyster, scallop, clam, mussel, and abalone industries. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XX, p. 505-626.

Moore, Henry Frank: Some factors in the oyster problem. Bulletin, 1897 (1898), vol. XVII, p. 275-284. *Doc. 381 issued Aug. 8, 1898.* F12-110

Rathbun, Richard: [Oyster industry of the Atlantic coast.] Report, 1888-89 (1892), p. LIX-LXV.

Smith, Hugh McCormick: [Oyster fishery of the United States.] Report, 1892 (1894), p. CLXXVIII-CLXXX.

— [Inquiries and experiments relative to the oyster fisheries.] Report, 1897 (1898), p. CIII-CV.

Stevenson, Charles Hugh: [Origin and extent of export of oysters from the United States.] Report, 1894 (1896), p. 515-519.

U. S. Bureau of Fisheries: [Oyster investigations.] Report, 1910 (1911), p. 15-16; 1913 (1914), p. 27-28.

— [U. S. oyster industry.] Report, (1913), p. 7-23; 1913 (1914), p. 40-49.

U. S. Commissioner of Fisheries: [Value of the oyster fisheries of the United States.] Report, 1899 (1900), p. VII-VIII.

ALABAMA.

Moore, Henry Frank: Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Alabama. Report and special papers, 1911 (1913), 61 p., illus., V pl., fold. chart. *Doc. 769 issued Mar. 15, 1913.* F13-48

Ritter, Homer P.: Report of a reconnaissance of the oyster beds of Mobile Bay and Mississippi Sound, Alabama. Bulletin, 1895 (1896), vol. XV, p. 325-339, pl. 56-63 (partly fold.). *Doc. 305 issued Apr. 11, 1896.* F12-247

U. S. Commissioner of Fisheries: [Survey of the natural oyster beds of Alabama.] Report, 1911 (1912), p. 19.

ALASKA.

Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1909. (Rock oyster: p. 53.) Report and special papers, 1909 (1911), 58 p. *Doc. 730 issued Apr. 20, 1910.* 7-35263

CALIFORNIA.

Gilbert, Charles Henry: Report upon certain investigations relating to the planting of oysters in southern California. Bulletin, 1889 (1891), vol. IX, p. 95-98, pl. 31-34 (partly fold.). *Doc. 153 issued July 11, 1891.* F12-141

- Townsend, Charles Haskins:** Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. Report, 1889-1891 (1893), p. 343-372, pl. 2-11 (partly fold.). *Doc. 217 issued Nov. 13, 1893.* F16-84
- [Eastern oysters in San Francisco Bay.] Report, 1900 (1901), p. 179.
- Wilcox, William A.:** [Oyster fisheries of San Francisco.] Report, 1893 (1895), p. 206-208.

CONNECTICUT.

- Collins, J. W.:** Notes on the oyster fishery of Connecticut. Bulletin, 1889 (1891), vol. IX, p. 461-497, pl. CLIX-CLXVI. *Doc. 169 issued Aug. 27, 1891.* F12-155

DELAWARE.

- Moore, Henry Frank:** Condition and extent of the natural oyster beds of Delaware. Report and special papers, 1910 (1911), 29 p., fold. map. *Doc. 745 issued Feb. 10, 1911.* F11-76
- U. S. Bureau of Fisheries:** [Survey of the natural oyster beds.] Report, 1911 (1913), p. 18-19.
- Winslow, Francis:** Memorandum of the present condition and future needs of the oyster industry. Bulletin, 1884 (1884), vol. IV, p. 233-234. F13-101

FLORIDA.

- Collins, Joseph William:** [Pensacola oyster fishery.] Report, 1885 (1887), p. 302-303.
- Danglade, Ernest:** Condition and extent of the natural oyster beds and barren bottoms in the vicinity of Apalachicola, Fla. Appendix V, Report, 1916 (1917), 68 p. incl. tables, VII pl., fold. chart. *Doc. 841 issued Mar. 22, 1917.* F17-156
- Detwiler, John Y.:** Notes on the fishing industry of eastern Florida. Bulletin, 1897 (1898), vol. XVII, p. 309-312. *Doc. 385 issued Aug. 8, 1898.* F12-110
- Rathbun, Richard:** [Oyster fisheries of Apalachicola Bay.] Report, 1896 (1898), p. 105-109.
- Ruge, John G.:** The oysters and oyster beds of Florida. Bulletin, 1897 (1898), vol. XVII, p. 289-296. *Doc. 383 issued Aug. 8, 1898.* F12-110
- Smith, Hugh M.:** [Oyster fisheries of Biscayne Bay.] Report, 1895 (1896), p. 178-179.
- Swift, Franklin:** Report of a survey of the oyster regions of St. Vincent Sound, Apalachicola Bay, and St. George Sound, Florida. Report, 1896 (1898), p. 187-221. *Doc. 343 issued 1897.* F11-178
- U. S. Bureau of Fisheries:** [Oyster industry.] Report, 1896 (1898), p. 278-281.
- [Notes on the oyster fisheries of Florida.] Report, 1899 (1900), p. 227.
- Wilcox, W. A.:** [Oyster industry of Indian River.] Report, 1896 (1898), p. 256-257.

LOUISIANA.

- Moore, Henry Frank:** Report on the oyster beds of Louisiana. Report, 1898 (1899), p. 45-100, pl. 3. *Doc. 402 issued Mar. 22, 1899.* F11-114
- Moore, Henry Frank, and T. E. B. Pope:** Oyster-culture experiments and investigations in Louisiana. Report and special papers, 1908 (1910), 52 p., VIII pl. *Doc. 731 issued May 14, 1910.* 10-35661
- Smith, H. M.:** [Oyster investigations in Louisiana.] Report, 1898 (1899), p. CXXIII-CXXV.
- U. S. Bureau of Fisheries:** [Oyster fisheries of Louisiana.] Report, 1899 (1900), p. 145-147.
- U. S. Commissioner of Fisheries:** [Louisiana oyster work.] Report, 1908 (1910), p. 9.
- Zacharie, F. C.:** The Louisiana oyster industry. Bulletin, 1897 (1898), vol. XVII, p. 297-304. *Doc. 384 issued Aug. 8, 1898.* F12-110

MARYLAND.

- Ryder, John Adam:** Journal of operations on the grounds of the Eastern Shore oyster company, Chincoteague Bay, near Stockton, Md., during the summer of 1883. Bulletin, 1884 (1884), vol. IV, p. 43-47. F18-210
- Stevenson, C. H.:** The oyster industry of Maryland. (Chronological list of publications relative to the oyster industry of Maryland: p. 296-297.) Bulletin, 1892 (1894), vol. XII, p. 203-297, pl. LVI-LXXI. *Doc. 227 issued Feb. 28, 1894.* F12-165

MASSACHUSETTS.

Wilcox, W. A.: [Oyster industry of Taunton River.] Report, 1894 (1896), p. 136-137.

MISSISSIPPI.

Moore, Henry Frank: Condition and extent of the natural oyster beds and barren bottoms of Mississippi east of Biloxi. Report and special papers, 1911 (1913), 41 p., VI pl., fold. map. *Doc. 774 issued May 16, 1913.* F13-72
U. S. Bureau of Fisheries: [Survey of the natural oyster beds of Mississippi.] Report, 1911 (1913), p. 19.

NEW JERSEY.

Hall, Ansley: Notes on the oyster industry of New Jersey. Report, 1892 (1894), p. 463-528 incl. tables. *Doc. 291 issued Dec. 19, 1894.* F14-44

NEW YORK.

Blackford, Eugene C.: Report of the work in an oyster investigation with the steamer *Lookout*. Bulletin, 1885 (1885), vol. V, p. 52-57. F18-378
 ——— Report on an oyster investigation in New York with the steamer *Lookout*. Report, 1885 (1887), p. 157-163. F17-143
Rathbun, Richard: [Oyster investigation on Long Island Sound.] Report, 1889-1891 (1893), p. 110-115.
U. S. Commissioner of Fisheries: [Investigation of oyster beds in New York waters.] Report, 1885 (1887), p. CI.

NORTH CAROLINA.

Evermann, Barton Warren: [Report on investigations in oyster planting and culture.] Report, 1904 (1905), p. 83-84.
Grave, Caswell: Investigations for the promotion of the oyster industry of North Carolina. (*Contents.*—Investigations for the promotion of the oyster industry of North Carolina, by C. Grave. Anatomy, embryology, and growth of the oyster, by H. F. Moore. Observations and experiments on the growth of the oysters, by O. C. Glaser.) Report, 1903 (1905), p. 247-341, XI pl., fold. map. *Doc. 556 issued Feb. 2, 1905.* F11-12
Smith, Hugh McCormick: [Survey of the oyster beds of North Carolina.] Report, 1900 (1901), p. 119.

RHODE ISLAND.

U. S. Bureau of Fisheries: [Oyster fisheries of Rhode Island in 1902.] Report, 1904 (1905), p. 314.

SOUTH CAROLINA.

Battle, John D.: An investigation of the coast waters of South Carolina with reference to oyster-culture. Bulletin, 1890 (1892), vol. X, p. 303-330, pl. LIV-LX. *Doc. 199 issued Nov. 2, 1892.* F12-118
Dean, Bashford: The physical and biological characteristics of the natural oyster grounds of South Carolina. Bulletin, 1890 (1892), vol. X, p. 335-361. *Doc. 202 issued Dec. 19, 1892.* F12-121
Rathbun, Richard: [Oyster resources of South Carolina.] Report, 1889-1891 (1893), p. 120-122.

TEXAS.

Moore, Henry Frank: Survey of oyster bottoms in Matagorda Bay, Texas. Report and special papers, 1905 (1907), 86 p., pl., chart. *Doc. 610 issued Mar. 6, 1907.* 7-35165
Moore, Henry Frank, and Ernest Dangle: Condition and extent of the natural oyster beds and barren bottoms of Lavaca Bay, Texas. Appendix II, Report, 1914 (1915), 45 p., V pl., fold. chart. *Doc. 809 issued Feb. 13, 1915.* F15-15
Stevenson, C. H.: [Oyster industry of Texas.] Report, 1889-1891 (1893), p. 386-390.

VIRGINIA.

Edmonds, Richard H.: Review of the oyster industry of Virginia. *In* The fisheries and fishery industries of the United States. 1887. Sec. II, pt. XI, p. 464-473.
Moore, Henry Frank: Condition and extent of the oyster beds of the James River, Virginia. Report and special papers, 1909 (1911), 83 p., 2 fold. charts. *Doc. 729 issued Jan. 20, 1910.* 10-35064

- Rathbun, Richard:** [Delineation of public oyster grounds by Virginia.] Report, 1892 (1894), p. CV-CVI.
- Smith, Hugh McCormick:** [Oyster fisheries of Chesapeake Bay.] Report, 1889-1891 (1893), p. 184-188.
- U. S. Bureau of Fisheries:** [Oyster fisheries of Virginia.] Report, 1888-89 (1892), p. 349-351.

WASHINGTON.

- Collins, Joseph W.:** [Oyster industry of Shoalwater Bay.] Report, 1888-89 (1892), p. 238-239.
- [Oyster fishery of Puget Sound.] Report, 1888-89 (1891), p. 267-268.
- Townsend, Charles Haskins:** Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. Report, 1889-1891 (1893), p. 343-372. *Doc. 217 issued Nov. 13, 1893.* F16-84
- The transplanting of eastern oysters to Willapa Bay, Washington, with notes of the native oyster industry. Report, 1895 (1896), p. 193-202. *Doc. 334 issued Jan. 6, 1897.* F11-197
- Wilcox, William:** [Oyster industry of Willapa Bay.] Report, 1893 (1895), p. 285-286.
- [Notes on the oyster fisheries of Washington in 1895.] Report, 1896 (1898), p. 602.

ATLANTIC COAST.

- McDonald, Marshall:** [Work in the interest of the oyster industry of the Atlantic coast.] Report, 1889-1891 (1893), p. 4-5.

MIDDLE ATLANTIC.

- Smith, Hugh McCormick:** [Oyster fisheries of the Middle Atlantic States.] Bulletin, 1894 (1895), vol. XIV, p. 453-455.
- U. S. Bureau of Fisheries:** Statistics of the fisheries of the Middle Atlantic States for 1904. (Oysters: p. 27, 50, 61, 84, 117.) Report and special papers, 1905 (1907).

NEW ENGLAND.

- Smith, Hugh McCormick:** [Oyster industry of New England.] Report, 1894 (1896), p. 133-137.
- U. S. Bureau of Fisheries:** Statistics of the fisheries of the New England States for 1905. (Oysters: p. 82 and 91.) Report and special papers, 1906 (1908).
- [Oyster industry of New England States.] Report, 1911 (1913), p. 28-33.

PACIFIC COAST.

- Rathbun, Richard:** [Report upon the inquiry respecting oyster fisheries of the Pacific coast.] Report, 1893 (1895), p. 29-30.
- Townsend, Charles Haskins:** Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. Report, 1889-1891 (1893), p. 343-372. *Doc. 217 issued Nov. 13, 1894.* F16-84
- Wilcox, William A.:** The commercial fisheries of the Pacific Coast States in 1904. (Oysters: p. 16-18.) Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.* 7-35100

CHESAPEAKE BAY.

- Rathbun, Richard:** [Oyster resources of Maryland and Virginia.] Report, 1889-1891 (1893), p. 122-124.
- [Oyster investigations in Chesapeake Bay.] Report, 1892 (1894), p. CIII-CVI.
- [Oyster investigations, Chesapeake Bay.] Report, 1893 (1895), p. 22-23.
- Winslow, Francis:** Memorandum of the present condition and future needs of the oyster industry. Bulletin, 1884 (1884), vol. IV, p. 233-234. F13-101

EUROPE.

FRANCE.

- Coste, Jean Jacques Marie Cyprien Victor:** Report on the oyster and mussel industries of France and Italy. Report, 1880 (1883), p. 825-883, XIII pl. F16-277
- Dean, Bashford:** [European methods of oyster culture.] *Quoted by Rathbun.* Report, 1893 (1895), p. 30-32.

ITALY.

- Coste, Jean Jacques Marie Cyprien Victor:** Report on the oyster and mussel industries of France and Italy. Report, 1880 (1883), p. 825-883, XIII pl. F16-277

NORWAY.

- Kiaer, A. N.:** [Norwegian oyster fisheries for 1885.] Report, 1886 (1889), p. 1058.
[Oyster fisheries of Schleswig-Holstein.] Report, 1880 (1883), p. 689-692, illus.
Ström, Boye: [Oyster fisheries of Norway from 1879 to 1883.] Report, 1885 (1887), p. 317.
Yhlen, Gerhard von: [Oyster fisheries of the Län of Göteborg and Bohus in the year 1877.] Report, 1877 (1879), p. 749.

METHODS.

- Möbius, Karl August:** [Dredge nets.] Report, 1880 (1883), p. 689, illus.
Smith, Hugh McCormick: Notes on an improved form of oyster tongs. Bulletin, 1889 (1891), vol. XI, p. 161-163. Doc. 153 issued June 16, 1891. F12-146

PREPARATION AND VALUE AS FOOD.

- Atwater, Wilbur Olin:** Report of progress of an investigation of the chemical composition and economic values of fish and invertebrates used as food. Undertaken for the United States Fish commission. Report, 1880 (1883), p. 231-285 incl. tables. F16-273
 — The chemical composition and nutritive value of food-fishes and aquatic invertebrates. Report, 1888-89 (1892), p. 679-868. Doc. 185 issued June 2, 1892. Agr. 3-567
Churchill, E. P.: [Canning oysters.] Appendix VIII, Report, 1919 (1921), p. 46-48.
Möbius, Karl August: [Chemical constituents and the flavor of the oyster.] Report, 1880 (1883), p. 732-738.
Moore, Henry Frank: Oysters: the food that has not "gone up." A little of their history and how to cook them. 16 p. *Economic Circular 18* issued Aug. 26, 1915. F15-88
Rowe, Henry C.: The wholesomeness of oysters as food. Bulletin, 1908 (1910), vol. XXVIII, p. 259-267. Doc. 656 issued 1910. 10-35134
Ruge, John G.: [Oysters, oldest of food.] Bulletin, 1897 (1898), vol. XVII, p. 289-290.
 — [Earliest records of canning.] Bulletin, 1897 (1898), vol. XVII, p. 289-296.
Rumpff, Carl: The oyster as a popular article of food in North America. Bulletin, 1884 (1884), vol. IV, p. 356-358. F18-333
Ryder, John Adam: [Analysis of the Portuguese and common oyster.] Bulletin, 1882 (1883), vol. II, p. 338.
U. S. Bureau of Fisheries: [Nature of "fat" oysters.] Report, 1918 (1920), p. 26.
Variation in nutritive value of oysters.] Bulletin, 1886 (1887), vol. VI, p. 456.

LAWS AND LEGISLATION.

- Broca, P. de:** [Laws concerning oyster plantations in the states.] Report, 1873-74 and 1874-75 (1876), p. 299-302.
California Laws, Statutes, etc.: [An act to encourage the planting and cultivation of oysters.] Quoted by Townsend. Report, 1889-1891, (1893), p. 365.
Collins, Joseph William: [Oyster legislation of Connecticut.] Bulletin, 1889 (1891), vol. IX, p. 491-497.
Florida Laws, Statutes, etc.: [Extracts from the Florida State law in regard to oysters and the oyster fishery.] Report, 1896 (1898), p. 220-221.
Hall, Ansley: [Acts relative to the oyster industry of New Jersey.] Report, 1892 (1894), p. 498-505.
Massachusetts Laws and Statutes: [Bill authorizing inquiries respecting the destruction of oysters by starfish, etc.] Bulletin, 1886 (1887), vol. VI, p. 407.
Moore, Henry Frank: [Oyster legislation and its enforcement.] Bulletin, 1897 (1898), vol. XVII, p. 279-284.
Moore, Henry Frank, and T. E. B. Pope: Oyster culture experiments and investigations in Louisiana. (Legislation in 1902: p. 3-5.) Report and special papers, 1908 (1910). Doc. 731 issued May 14, 1910. 10-35661

- Oemler, A.: The past, present, and future of the oyster industry of Georgia. Bulletin, 1893 (1894), vol. XIII, p. 263-272. *Doc. 264 issued June, 1894.* F12-183
- Ruge, John G.: [Means of protecting the natural and artificial beds.] Bulletin, 1897 (1898), vol. XVII, p. 295-296.
- Stevenson, Charles H.: [Oyster laws operative in Texas.] Report, 1889-1891 (1893), p. 391-392.
- U. S. Commissioner of Fisheries: [Advance in oyster legislation.] Report, 1905 (1907), p. 19.
- Washington Laws, Statutes, etc.: [The oyster laws of Washington.] *Quoted by* Townsend. Report, 1889-1891 (1893), p. 371.
- Zacharie, F. C.: [Protecting the Louisiana oyster.] Bulletin, 1897 (1898), vol. XVII, p. 297-304.

Part 6.—MOLLUSCA—Continued.

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GENERAL.

- Collins, J. W.:** A large squid. Bulletin, 1884 (1884), vol. IV, p. 15. F18-206
- Sigerfoos, Charles Peter:** Natural history, organization, and late development of the Teredinidæ, or shipworms. Bulletin, 1907 (1908), vol. XXVII, p. 191-231, pls. VII-XXI. Doc. 639 issued Dec. 18, 1908. 8-35783
- Some notes on American shipworms. Bulletin, 1897 (1898), vol. XVII, p. 189-191. Doc. 369 issued 1898. F12-110
- Wright, H.:** [American clams in England.] Bulletin, 1886 (1887), vol. VI, p. 131.

HABITS.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard:** [Habits of fresh-water mussels, p. 81]. Bulletin, 1919-20 (192-), vol. XXXVII.
- Sigerfoos, Charles Peter:** Natural history, organization, and late development of the Teredinidæ, or shipworms. Bulletin, 1907 (1908), vol. XXVII, p. 191-231, pls. VII-XXI. Doc. 639 issued Dec. 18, 1908. 8-35783
- Simpson, Charles Torrey:** The pearly fresh-water mussels of the United States; their habits, enemies, and diseases, with suggestions for their protection. Bulletin, 1898 (1899), vol. XVIII, p. 279-288, illus. Doc. 413 issued Nov. 1, 1899. F12-99

PHYSIOLOGY.

- Grave, Benjamin Harrison:** Anatomy and physiology of the wing-shell *Atrina rigida*. (Bibliography: p. 437-438.) Bulletin, 1909 (1911), vol. XXIX, p. 409-439, illus., pl. XXVIII-L. Doc. 744 issued May 4, 1911. F11-156

NUTRITION.

FOOD.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard: [Food of mussels, p. 87.] Bulletin, 1919-20 (192-), vol. XXXVII.
 Field, Irving A.: [Food of mussels.] Bulletin, 1909 (1911), vol. XXIX, p. 92-95.
 Lotsey, Johannes Paulus: Food of the oyster, clam, and ribbed mussel. Report, 1893 (1895), p. 375-386. *Doc. 313 issued 1896.* 6-44419

GROWTH.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard: [Growth and formation of mussel shells, p. 125.] Bulletin, 1919-20 (192-), vol. XXXVII.
 Isley, Frederick B.: Experimental study of the growth and migration of fresh-water mussels. Appendix III, Report, 1913 (1914), 24 p., illus., III pl. *Doc. 792 issued July 23, 1914.* F14-60
 Kellogg, James Lawrence: [Conditions governing existence and growth of the soft clam (*Mya arenaria*).] Report, 1903 (1905), p. 195-224, illus., pls.
 Ryder, John Adam: On the rate of growth of the common clam, and on a mode of obtaining the young of the giant clams of the Pacific coast for the purpose of transplanting. Bulletin, 1885 (1885), vol. V, p. 174-177. F18-397

ENVIRONMENTAL FACTORS.

- Mitchell, Philip Henry: The oxygen requirements of shellfish. Bulletin, 1912 (1913), vol. XXXII, p. 207-222. *Doc. 787 issued Feb. 18, 1914.* F14-7

PATHOLOGY AND PATHOLOGICAL CONDITIONS.

- Harding, Charles W.: The utilization of localities in Norfolk and Suffolk suitable for the cultivation of mussels and other shellfish. Bulletin, 1882 (1883), vol. II, p. 83-89. F12-348
 Ryder, John Adams: On the green coloration of the gills and palps of the clam (*Mya arenaria*). Bulletin, 1885 (1885), vol. V, p. 181-185. F18-400
 Simpson, C. T.: The pearly fresh-water mussels of the United States; their habits, enemies, and diseases, with suggestions for their protection. Bulletin, 1898 (1899), vol. XVIII, p. 279-288, illus. *Doc. 413 issued Nov. 1, 1899.* F12-99

MORTALITY.

- Nightingale, Harold W.: Concerning the mortality of the soft clams at Essex, Mass. 4 p., illus. *Economic Circular 16 issued Apr. 8, 1915.* F15-43

PARASITES.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard: [Parasites and enemies of mussels, p. 121.] Bulletin, 1919-20 (192-), vol. XXXVII.
 Smith, H. M.: [Parasites of the scallop.] Bulletin, 1889 (1891), vol. IX, p. 318.

EMBRYOLOGY.

- Kellogg, James Lawrence: Observations on the life history of the common clam, *Mya arenaria*. Bulletin, 1899 (1901), vol. XIX, p. 193-202, illus. *Doc. 440 issued Aug. 29, 1900.* F14-132
 — A contribution to our knowledge of the morphology of lamellibranchiate mollusks. (List of papers cited: p. 429.) Bulletin, 1890 (1892), vol. X, p. 389-436, pl. LXXIX-XCIV. *Doc. 204 issued Dec. 19, 1892.* F12-123
 Koons, Benjamin Franklin: Planting Irish shells—*Helix aspersa* Müller—at Woods Hole, Mass. Bulletin, 1884 (1884), vol. IV, p. 87. F18-234
 Lefevre, George, and Winterton Conway Curtis: Experiments in the artificial propagation of fresh-water mussels. Bulletin, 1908 (1910), vol. XXVIII, p. 615-626. *Doc. 671 issued 1910.* 10-35435
 — Studies on the reproduction and artificial propagation of fresh-water mussels. (Bibliography: p. 195-197.) Bulletin, 1910 (1912), vol. XXX, p. 105-201, illus., pl. VI-XVII. *Doc. 756 issued May 10, 1912.* F12-106
 Ryder, J. A.: [Discovery of the byssus in *Mya arenaria*.] Report, 1888-89 (1892), p. CII.
 — [Development of the squid.] Report, 1888 (1891), p. 516.

ANATOMY.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard: [Structure of mussels, p. 167.] Bulletin, 1919-20 (192-), vol. XXXVII.
- Grave, Benjamin Harrison: Anatomy and physiology of the wing-shell *Atrina rigida*. (Bibliography: p. 437-439.) Bulletin, 1909 (1911), vol. XXIX, p. 409-439, illus., pl. XLVIII-L. Doc. 744 issued May 4, 1911. F11-156
- Kellogg, James Lawrence: A contribution to our knowledge of the morphology of lamellibranchiate mollusks. (List of papers cited: p. 429.) Bulletin, 1890 (1892), vol. X, p. 389-436. Doc. 204 issued Dec. 19, 1892. F12-123

CULTURE.

- Hessell, Rudolph: Artificial culture of medicinal leeches and of species of *Helix*. Bulletin, 1881 (1882), vol. I, p. 264-265. F18-51
- Mitsukuri, Kakichi: [Culture of haigai, agemaki, jimegi, tairagai, bakagai, and namako in Japan.] Bulletin, 1904 (1905), vol. XXIV, p. 284-288.
- Yaeger, B. S.: [Shellfish wanted in Utah.] Bulletin, 1885 (1885), vol. V, p. 468.

CLAMS.

- Detwiler, John Y.: [Propagation of the soft clam.] Bulletin, 1897 (1898), vol. XVII, p. 311.
- Hall, A.: [Inception of clam culture at Essex, Mass.] Report, 1894 (1896), p. 139-140.
- Kellogg, James Lawrence: Observations on the life history of the common clam, *Mya arenaria*. Bulletin, 1899 (1901), vol. XIX, p. 193-202, illus. Doc. 440 issued Aug. 29, 1900. F14-132
- The clam problem and clam culture. Bulletin, 1899 (1901), vol. XIX, p. 39-44, pl. 13 (fold.). Doc. 432 issued Aug. 29, 1900. F12-44
- Ryder, John Adam: On the rate of growth of the common clam, and on a mode of obtaining the young of the giant clams of the Pacific coast for the purpose of transplanting. Bulletin, 1885 (1885), vol. V, p. 174-176. F18-397
- Stearns, Robert Edward Carter: Suggestions for transplanting clams from the Pacific Ocean to the Atlantic. Bulletin, 1882 (1883), vol. II, p. 20-21. F18-60
- [Description of the Stearns tank for the transportation of clams from the Pacific Ocean to the Atlantic.] Bulletin, 1883 (1883), vol. III, p. 353-362.
- U. S. Bureau of Fisheries: [Notes on clam culture.] Report, 1897 (1898), p. 339-340; also in Manual of fish-culture, rev. ed., 1900. p. 339-340.

MUSSELS.

- Coker, R. E., A. F. Shira, H. W. Clark, and A. D. Howard: The natural history and propagation of fresh-water mussels. (Bibliography, p. 176.) Bulletin, 1919-20 (192), vol. XXXVII, p. 75-181, illus., pl. V-XXI. Doc. 893 issued 1921.
- Harding, Charles W.: The utilization of localities in Norfolk and Suffolk suitable for the cultivation of mussels and other shellfish. Bulletin, 1882 (1883), vol. II, p. 83-89. F12-348
- Howard, A. D.: Experiments in propagation of fresh-water mussels of the *Quadrula* group. Appendix IV, Report, 1913 (1914), 52 p. Doc. 801 issued Oct. 17, 1914. F14-105
- Lefevre, George, and Winterton Conway Curtis: Experiments in the artificial propagation of fresh-water mussels. Bulletin, 1908 (1910), vol. XXVIII, p. 615-626. Doc. 671 issued 1910. 10-35435
- Studies on the reproduction and artificial propagation of fresh-water mussels. (Bibliography: p. 195-197.) Bulletin, 1910 (1912), vol. XXX, p. 105-201, illus., pl. VI-XVII. Doc. 756 issued May 10, 1912. F12-106
- Nansouty, Max de: [Mussel (*Mytilus edulis*) culture in France.] Bulletin, 1886 (1887), vol. VI, p. 131-132.
- Surber, Thaddeus: Notes on the natural hosts of fresh-water mussels. Bulletin, 1912 (1913), vol. XXXII, p. 101-116, pl. XXIX-XXXI. Doc. 778 issued June 28, 1913. F13-218
- Identification of the glochidia of fresh-water mussels. Report and special papers, 1912 (1914), 10 p., III pl. Doc. 771 issued 1914. F13-35
- Identification of the glochidia of fresh-water mussels. Appendix V, Report, 1914 (1915), 9 p., pl. Doc. 813 issued Mar. 11, 1915. F15-31
- U. S. Bureau of Fisheries: [Pearl-mussel investigations.] Report, 1908 (1910), p. 8-9; 1909 (1911); p. 13-14; 1910 (1911), p. 16-17; 1911 (1913), p. 20; 1912 (1914), p. 56-57; 1913 (1914), p. 28.

U. S. Bureau of Fisheries: [Propagation of fresh-water mussels.] Report, 1912 (1914), p. 56; 1915 (1917), p. 32-33; 1916 (1917), p. 33; 1917 (1919), p. 78-79; 1918 (1920), p. 17-18.

SNAILS.

Hessel, Rudolph: Culture of edible snails. Bulletin, 1884 (1884), vol. IV, p. 166. F18-262

FISHERIES.

UNITED STATES.

Winslow, Francis: Catalogue of the economic Mollusca and apparatus and appliances used in their capture and preparation for market, exhibited by the U. S. National museum. [Great International fisheries exhibition, London, 1883, U. S. 1883.] 86 p. *Doc. 57 issued June 14, 1883.* F12-293

ABALONE.

Ingersoll, Ernest: The abalone fishery. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XX, p. 622-626.

Wilcox, William A.: [Abalone fishery in California.] Report, 1901 (1902), p. 570-572.

— The commercial fisheries of the Pacific Coast States for 1904. (Abalone: p. 18-19.) Report and special papers, 1905 (1907), 74 p. *Doc. 612 issued Feb. 25, 1907.* 7-35100

CLAMS.

Ingersoll, Ernest: The clam fisheries. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XX, p. 581-615.

Kellogg, J. L.: The clam problem and clam culture. Bulletin, 1899 (1901), vol. XIX, p. 39-44, pl. 13. *Doc. 432 issued Aug. 29, 1900.* F12-44

Moore, C. R.: Introduction of clams into Delaware Bay. Bulletin, 1885 (1885), vol. V, p. 426. F18-493

U. S. Bureau of Fisheries: Report of the special commission for the investigation of the lobster and the soft-shell clam. (*Contents.*—I. General account of the lobster and clam investigations, by H. M. Smith. II. Experiments in lobster rearing, by G. H. Sherwood. III. The causes of death in artificially reared lobster fry, by F. P. Gorham. IV. Conditions governing the existence and growth of the soft clam, *Mya arenaria*, by J. L. Kellogg.) Report, 1903 (1905), p. 139-224, pl. I-X. *Doc. 554 issued Jan. 21, 1905.* F11-10

MUSSELS.

Coker, Robert Ervin: The protection of fresh-water mussels. Report and special papers, 1912 (1914), 23 p., II pl. *Doc. 793 issued Feb. 7, 1914.* F14-12

— Fresh-water mussels and mussel industries of the United States. Bulletin, 1917-1918 (1921), vol. XXXVI, p. 13-89, XLVI pl., fold. chart. *Doc. 865 issued Oct. 25, 1919.* F19-40

Coker, R. E., and J. B. Southall: Mussel resources in tributaries of the upper Missouri River. (With description of shell found in the James River at Huron, S. Dak., July 27, 1913.) Appendix IV, Report, 1914 (1915), 17 p. incl. map, pl. *Doc. 812 issued Mar. 20, 1915.* F15-18

Danglade, Ernest: Condition of the mussel fishery of the Illinois River in 1912. 4 p. *Economic Circular 2 issued Sept. 20, 1912.* F12-281

Danglade, Ernest, and John A. Eldridge: The mussel resources of the Illinois River, by Ernest Danglade. The mussel fishery of the Fox River, by John A. Eldridge. Appendixes VI and VII, Report, 1913 (1914), 48 p., 8 p., illus., VI pl. *Doc. 804 issued Sept. 30, 1914.* F14-103

Ingersoll, Ernest: Mollusks in general. In The fisheries and fishery industries of the United States. 1884. Sec. I, pt. IV, p. 683-710.

— [Mussel fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XX, p. 615-622.

Kunz, George F.: [Extermination of the mollusks.] Bulletin, 1897 (1898), vol. XVII, p. 328-330.

Shira, Austin F.: The mussel fisheries of Caddo Lake and Cypress and Sulphur rivers of Texas and Louisiana. 10 p. *Economic Circular 6 issued Dec. 10, 1913.* F13-217

Smith, Hugh McCormick: [The mussel fishery of the Mississippi River.] Bulletin, 1898 (1899), vol. XVIII, p. 292-303, illus.

- Smith, H. M.:** Fresh-water mussels. A valuable national resource without sufficient protection. 5 p. *Economic Circular 43 issued Feb. 12, 1919.* F19-2
- U. S. Bureau of Fisheries:** [Statistics of fresh-water mussel fishery of the Mississippi River and its western tributaries from Kansas northward in 1914.] Report, 1916 (1917), p. 50-57.
- [Fresh-water mussel fishery.] Report, 1914 (1915), p. 25-34; 1915 (1917), p. 63-70; 1916 (1917), p. 50-57.

PEARL.

- Alexander, Alvin Burton:** [Pearl fishery.] Report, 1901 (1902), p. 764.
- Bouchon-Brandely, Germain:** The pearl fisheries of Tahiti. Bulletin, 1885 (1885), vol. V, p. 292-294. F18-445
- Pearls and mother-of-pearl at Tahiti and Tuamotu Archipelago. Report, 1885 (1887), p. 353-377. F17-145
- Griffin, G. W.:** The pearl fisheries of Australia. Bulletin, 1886 (1887), vol. VI, p. 433-435. F18-624
- Kunz, George Frederick:** On pearls, and the utilization and application of the shells in which they are found in ornamental arts, as shown at the world's Columbian exposition. Bulletin, 1893 (1894), vol. XIII, p. 439-457, pl. 18-40 (part. col.). Doc. 278 issued 1894. F12-183
- A brief history of the gathering of fresh-water pearls in the United States. Bulletin, 1897 (1898), vol. XVII, p. 321-330. Doc. 389 issued 1898. F12-110
- The fresh-water pearls and pearl fisheries of the United States. Bulletin, 1897 (1898), vol. XVII, p. 375-426, illus., XXII pl. (incl. col. front.). Doc. 397 issued Oct. 11, 1898. F15-12
- Solomon, John I.:** A process for preserving the pearl-oyster fisheries and for increasing the value of the yield of pearls. Bulletin, 1908 (1910), vol. XXVIII, illus., p. 305-313. 10-35154
- [Utilizing the X-ray for preserving the pearl-oyster fisheries.] Bulletin, 1908 (1910), vol. XXVIII, p. 307-313.
- Townsend, Charles Haskins:** [Pearl fishery of the Tuamotu Archipelago.] Report, 1900 (1901), p. 181-182.
- Report upon the pearl fishery of the Gulf of California. Bulletin, 1889 (1891), vol. IX, p. 91-94, pl. 28-30. Doc. 152 issued July 11, 1891. F12-140
- Weber, Max William Carl:** Pearls and pearl fisheries. Bulletin, 1886 (1887), vol. VI, p. 321-328. F18-602

SCALLOP.

- Schmidt, Waldo L.; E. C. Johnston; E. P. Rankin; and Edward Driscoll:** Survey of the fishing grounds on the coast of Washington and Oregon in 1914. (Scallops: p. 26-27.) Appendix VII, Report, 1914 (1915), 30 p. Doc. 817 issued June 8, 1915. F15-86
- Slade, Elisha:** [Abundance of scallops.] Bulletin, 1885 (1885), vol. V, p. 89.
- Smith, H. M.:** The giant scallop fishery of Maine. Bulletin, 1889 (1891), vol. IX, p. 313-335, pl. CXII-CXVI (partly fold.). Doc. 163 issued July 24, 1891. F12-151
- Welsh, W. W.:** Opportunity for a new sea scallop fishery off the Middle Atlantic coast. 5 p., illus. *Economic Circular 7 issued Jan. 28, 1914.* F14-3

SQUID.

- Wilcox, William A.:** The commercial fisheries of the Pacific Coast States. (Squid: p. 19-20.) Report and special papers, 1905 (1907).

EUROPE.

- Coste, Jean Jacques Marie Cyprien Victor:** Report on the oyster and mussel industries of France and Italy. Report, 1880 (1883), p. 825-883, CIII pl. F16-277

LEGISLATION FOR MUSSELS.

- Coker, Robert Ervin:** The protection of fresh-water mussels. Report and special papers, 1912 (1914), 23 p., pl. Doc. 793 issued Feb. 7, 1914. F14-12
- Kunz, George F.:** [Nation and State protection for mussels.] Bulletin, 1897 (1898), vol. XVII, p. 330.
- Simpson, C. T.:** The pearly fresh-water mussels of the United States; their habits, enemies, and diseases, with suggestions for their protection. Bulletin, 1898 (1899), vol. XVIII, p. 279-288, illus. Doc. 413 issued Nov. 1, 1899. F12-99

PRODUCTS.

BUTTONS.

- Coker, Robert Ervin:** Fresh-water mussels and mussel industries of the United States. Bulletin, 1917-18 (1921), vol. XXXVI, p. 13-89, illus., XLVI pl. (1 col.), fold. chart. *Doc. 865 issued Oct. 25, 1919.* F19-40
- Kunz, George F.:** [Utilization of unic shells for buttons.] Bulletin, 1897 (1898), vol. XVII, p. 327, 425-426.
- Smith, Hugh McCormick:** The mussel fishery and pearl-button industry of the Mississippi River. Bulletin, 1898 (1899), vol. XVIII, p. 289-314, illus., pl. 65-85. *Doc. 414 issued Oct. 26, 1899.* F12-100
- U. S. Bureau of Fisheries:** [Statistics of the pearl-button industry of the United States.] Report, 1914 (1915), p. 31-35.

SHELLFISH AS FOOD.

MISCELLANEOUS.

- Stearns, Robert Edward Carter:** Edible shellfish found near Cuba. Bulletin, 1885 (1885), vol. V, p. 311-312. F18-458

CLAMS.

- Hemphill, Henry:** On the habits and distribution of the geoduck, a clam of the Pacific (*Glycimeris generosa* Gld.), with suggestions as to its introduction into the Atlantic coast of the United States. Bulletin, 1881 (1882), vol. I, p. 200-201. F18-35
- Moser, Jefferson F.:** [Packing clams at Klawak.] Bulletin, 1898 (1899), vol. XVIII, p. 111-112.
- Ryder, John Adam:** A valuable edible mollusk of the west coast. Bulletin, 1881 (1882), vol. I, p. 21. F18-9
- Stearns, Robert Edward Carter:** The edible clams of the Pacific coast and a proposed method of transplanting them to the Atlantic coast (*Glycimeris generosa*, *Saxidomus nuttallii*, *Schizothoerus nuttallii*.) Bulletin, 1883 (1883), vol. III, p. 353-362, illus. F12-420
- Stevenson, Charles H.:** [Extracts of clams and oysters.] Bulletin, 1898 (1899), vol. XVIII, p. 553-556.

MUSSELS.

- Field, Irving A.:** Sea mussels and dogfish as food. [With discussion by Oscar Nordqvist, Theodore Gill, Charles E. Fryer, T. E. Libby, C. G. Atkins, Edward E. Prince, George W. Field, Walter E. Hathaway, and E. C. Whitman.] Bulletin, 1907 (1908), vol. XXVIII, p. 241-257. *Doc. 655 issued 1910.* 10-35138
- The food value of sea mussels. (Literature: p. 126-128.) Bulletin, 1909 (1911), vol. XXIX, p. 85-128, illus., pl. XVIII-XXV. *Doc. 742 issued Feb. 24 1911.* F11-7
- U. S. Bureau of Fisheries:** Sea mussels: what they are and how to cook them. With eighteen recipes (furnished by Mr. Charles Doucot). 5 p., illus. *Economic Circular 12 issued Mar. 24, 1914.* F14-9

SCALLOPS.

- Smith, Hugh McCormick:** [Food value of the scallop.] Bulletin, 1889 (1891), vol. IX, p. 330-331.

SQUID.

- Collins, Joseph William:** Notes on the use of squid for food in the United States. Bulletin, 1887 (1889), vol. VII, p. 127-128. F18-66
- [Use of squid as food.] Report, 1887 (1891), p. 351.

GEOGRAPHICAL DISTRIBUTION.

UNITED STATES.

GENERAL.

- Berry, Samuel Stillman:** A review of the cephalopods of western North America. (Bibliography: p. 318-325.) Bulletin, 1910 (1912), vol. XXX, p. 267-336, illus., pl. 32-56. *Doc. 761 issued July 24, 1912.* F12-202

- Bush, Katharine Jeanette:** List of deep-water Mollusca dredged by the U. S. Fish commission steamer *Fish Hawk* in 1880, 1881 and 1882, with their range of depth. Report, 1883 (1885), p. 701-727. *Doc. 100 issued Aug. 16, 1886.* F11-244
- Coker, Robert Ervin:** The common and scientific names of fresh-water mussels. 4 p. *Economic Circular 15 issued Apr. 8, 1915.* F15-42
- Hemphill, Henry:** On the habits and distribution of the geoduck, a clam of the Pacific (*Glycimeris generosa*, Gld.), with suggestions as to its introduction into the Atlantic coast of the United States. Bulletin, 1881 (1882), vol. I, p. 200-201. F18-35
- Ingersoll, Ernest, and John A. Ryder:** Natural history of economic mollusks of the United States. (Extracted from The fisheries and fishery industries of the United States. 1884. Sec. I, pt. IV, p. 687-758, pl. 253-259.) *Doc. 223 issued Nov. 16, 1893.* F12-29
- Nye, Willard:** Notes upon octopus, flying-fish, etc., taken during the *Albatros* cruise in January, 1884. Bulletin, 1885 (1885), vol. V, p. 189-190. F18-40
- Ryder, John A.:** A valuable edible mollusk of the west coast. Bulletin, 1881 (1882) vol. I, p. 21. F18-9
- Simpson, Charles Torrey:** The pearly fresh-water mussels of the United States; their habits, enemies, and diseases, with suggestions for their protection. Bulletin, 1898 (1899), vol. XVIII, p. 279-288, illus. *Doc. 413 issued Nov. 1, 1899.* F12-99
- Smith, Hugh McCormick:** [The soft clam of the Atlantic.] Bulletin, 1895 (1896), vol. XV, p. 467-469.
- Stearns, Robert Edward Carter:** Note on the clams of the Pacific coast. Bulletin, 1885 (1885), vol. V, p. 356. F18-472
- Verrill, Addison Emory, and S. I. Smith:** Report upon the invertebrate animals of Vineyard Sound and adjacent waters, with an account of the physical features of the region. Report, 1871-72 (1873), p. 295-778, XXXVIII pl. F15-102
- Report on the cephalopods of the northeastern coast of America. Report, 1879 (1882), p. 211-455, XLVI pl. *Doc. 42 issued Apr. 10, 1882.* 10-30404
- Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound. Report, 1882 (1884), 29 p. *Doc. 83 issued Aug. 15, 1884.* F11-267
- [Mollusca taken by the steamer *Albatross* off the northern coast of the United States.] Report, 1883 (1885), p. 525-529, XLIV pl.
- Winslow, Francis:** Catalogue of the economic Mollusca and the apparatus and appliances used in their capture and preparation for market, exhibited by the United States National Museum. (Great International fisheries exhibition, London. 1883.) 86 p. *Doc. 57 issued June 14, 1883.* F12-293

ARKANSAS.

- Meek, Seth Eugene:** A list of fishes and mollusks collected in Arkansas and Indian Territory in 1894. Bulletin, 1895 (1896), vol. XV, p. 341-350. *Doc. 306 issued Apr. 9, 1897.* 6-19634
- The mussels of the Big Buffalo fork of White River, Arkansas. Report and special papers, 1911 (1913), 20 p. *Doc. 759 issued July 22, 1912.* F12-49

CALIFORNIA.

- MacFarland, Frank Mace:** Opisthobranchiate Mollusca from Monterey Bay, California, and vicinity. Bulletin, 1905 (1906), vol. XXV, p. 109-151, pl. XVIII-XXXI (part. col.). *Doc. 597 issued May 24, 1906.* F11-68

ILLINOIS.

- Wilson, Charles Branch:** The mussel fauna of the Kankakee basin. Report and special papers, 1911 (1913), 52 p., pl., fold. map. *Doc. 758 issued Mar. 19, 1912.* F12-48

INDIANA.

- Clark, H. W., and C. B. Wilson:** The mussel fauna of the Maumee River. Report and special papers, 1911 (1913), 72 p., 11 pl. *Doc. 757 issued Apr. 22, 1912.* F12-77
- Kirsch, Philip H.:** [List of fresh-water mollusks collected in the Maumee River basin during the summer of 1893 by A. J. Woolman and Philip H. Kirsch.] Bulletin, 1894 (1895), vol. XIV, p. 332.

MAINE.

- Kendall, W. C.:** Fishes and fishing in Sunapee Lake. (Mollusks: p. 88.) Report and special papers, 1912 (1914), 96 p. *Doc. 783 issued Jan. 28, 1914.* F14-1

MASSACHUSETTS.

- Koons, B. F.: Planting Irish shells—*Helix aspersa*, Müller—at Woods Hole. Bulletin, 1884 (1884), vol. IV, p. 87. F18-234

MINNESOTA.

- Wilson, Charles Branch, and Ernest Danglade: Mussels of central and northern Minnesota. 6 p. *Economic Circular 3 issued Oct. 26, 1912.* F12-314
 ——— The mussel fauna of central and northern Minnesota. Appendix V, Report, 1913 (1914), 26 p., fold. map. *Doc. 803 issued Sept. 15, 1914.* F14-102

MISSOURI.

- Utterback, W. I.: Mussel resources in Missouri. 6 p. *Economic Circular 10 issued Feb. 27, 1914.* F14-95

NEW YORK.

- Evermann, Barton Warren, and E. L. Goldsborough: Notes on the fishes and mollusks of Lake Chautauqua, New York. Report, 1901 (1902), p. 169-175. *Doc. 483 issued Mar. 28, 1902.* F11-19

OKLAHOMA.

- Isely, Frederick B.: Mussel streams of eastern Oklahoma. 4 p. *Economic Circular 9 issued Feb. 17, 1914.* F14-9

TENNESSEE.

- Boepple, Johann Frederick, and Robert Ervin Coker: Mussel resources of the Holston and Clinch rivers of eastern Tennessee. Investigations by J. F. Boepple. Notes compiled by R. E. Coker. Report and special papers, 1911 (1913), 13 p. *Doc. 765 issued Sept. 23, 1912.* F12-306
 Wilson, C. B., and H. W. Clark: Mussel beds of the Cumberland River in 1911. 4 p. *Economic Circular 1 issued Feb. 13, 1912.* F12-54
 ——— The mussels of the Cumberland River and its tributaries. Report and special papers, 1912 (1914), 63 p., pl. *Doc. 781 issued Jan. 28, 1914.* F14-2

TEXAS.

- Singley, J. A.: [List of Mollusca collected in Texas in 1891.] Bulletin, 1892 (1894), vol. XII, p. 123-125.

RIVERS.

- Coker, R. E.: Water-power development in relation to fishes and mussels of the Mississippi. Appendix VIII, Report, 1913 (1914), 28 p. *Doc. 805 issued Nov. 11, 1914.* F14-130
 ——— Mussel resources of the Tensas River of Louisiana. 7 p. *Economic Circular 14 issued Apr. 9, 1915.* F15-41
 Coker, Robert Ervin, and John B. Southall: Mussel resources in tributaries of the upper Missouri River. (With description of shell found in the James River at Huron, S. Dak., July 27, 1913.) Appendix IV, Report, 1914 (1915), 17 p. incl. map., pl. *Doc. 812 issued Mar. 20, 1915.* F15-18
 Danglade, Ernest: Condition of the mussel fishery of the Illinois River in 1912. 4 p. *Economic Circular 2 issued Sept. 20, 1912.* F12-281
 Danglade, Ernest, and John A. Eldridge: The mussel resources of the Illinois River, by Ernest Danglade. The mussel fishery of the Fox River, by John A. Eldridge. Appendixes VI and VII, Report, 1913 (1914), 48 p., 8 p., illus., VI pl. (incl. front. and fold. map). *Doc. 804 issued Sept. 30, 1914.* F14-103

PORTO RICO.

- Dall, William Healey, and Charles Torrey Simpson: The Mollusca of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. I, p. 351-524, pl. 53-58. *Doc. 458 issued Nov. 29, 1901.* F12-251

HAWAIIAN ISLANDS.

- Berry, Samuel Stillman: The Cephalopoda of the Hawaiian Islands. (Bibliography: p. 352-357.) Bulletin, 1912 (1913), vol. XXXII, p. 255-362, illus., pl. XLV-LV. *Doc. 789 issued June 24, 1914.* F14-59

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Part 7.—CRUSTACEA.

GENERAL.

- Churchill, Edward Perry:** Life history of the blue crab. Bulletin, 1917-18 (1921), vol. XXXVI, p. 93-128, illus., pl. XLVII-LV (one col.). Doc. 870 issued Nov. 11, 1919. F19-42
- Coker, Robert Ervin:** Notes on a species of barnacle (*Dichelaspis*) parasitic on the gills of edible crabs. (Literature cited: p. 412.) Bulletin, 1901 (1902), vol. XXI, p. 399-412, illus. Doc. 503 issued Oct. 23, 1902. F12-279
- Hay, William Perry:** The life history of the blue crab (*Callinectes sapidus*). Report, 1904 (1905), p. 395-413, pls. Doc. 580 issued Sept. 5, 1905. F10-10
- Herrick, Francis Hobart:** The habits and development of the lobster and their bearing upon its artificial propagation. Bulletin, 1893 (1894), vol. XIII, p. 75-86. Doc. 247 issued June 26, 1894. F12-183
- The American lobster: A study of its habits and development. (Bibliography: p. 229-237.) Bulletin, 1895 (1896), vol. XV, 252 p., illus., A-J, 54 pl. (partly col.). Doc. 300 issued Feb. 14, 1896. F12-249
- Natural history of the American lobster. (Bibliography: p. 384-408.) Bulletin, 1909 (1911), vol. XIX, p. 149-408, illus., pl. XXVIII-XLVII (partly col.). Doc. 747 issued July 13, 1911. F11-278
- Rathbun, Richard:** The crustaceans, worms, radiates, and sponges. In The fisheries and fishery industries of the United States. 1887. Sec. I, pt. V, p. 759-850.
- The crab, lobster, crayfish, rock lobster, shrimp, and prawn fisheries. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 629-658.
- Smith, Hugh McCormick:** [Spiny lobster (*Panulirus interruptus*).] Bulletin, 1894 (1895), vol. XIV, p. 280-281.
- Thompson, Millett T.:** A new isopod parasitic on the hermit crab. (Bibliography p. 56.) Bulletin, 1901 (1902), vol. XXI, p. 53-56, pl. 9-10. Doc. 478 issued Oct. 18, 1901. F12-268
- Wilson, Charles Branch:** Copepod parasites of fresh-water fishes and their economic relations to mussels glochidia. Bulletin, 1914 (1916), vol. XXXIV, p. 331-374, pl. LX-LXXIV. Doc. 824 issued June 28, 1916. F16-106
- The economic relations, anatomy, and life history of the genus *Lernæa*. Bulletin, 1915-16 (1918), vol. XXXV, p. 165-198, illus., pl. VI-XV. Doc. 854 issued Dec. 22, 1917. F18-4

HABITS AND BEHAVIOR.

- Herrick, Francis H.:** The habits and development of the lobster and their bearing upon its artificial propagation. Bulletin, 1893 (1894), vol. XIII, p. 75-86. Doc. 247 issued June 26, 1894. F12-183
- The American lobster: A study of its habits and development. (Bibliography: p. 229-237.) Bulletin, 1895 (1896), vol. XV, 252 p., illus., A-J., 54 pl. (partly col.). Doc. 300 issued Feb. 14, 1896. F12-249
- Natural history of the American lobster. Bulletin, 1909 (1911), vol. XIX, p. 149-408, illus., pl. XXVIII-XLVII (partly col.). Doc. 747 issued July 13, 1911. F11-278
- Mather, Fred:** What we know of the lobster. Bulletin, 1893 (1894), vol. XIII, p. 281-286. Doc. 265 issued June 9, 1894. F12-183
- Nye, Willard:** A reasoning lobster. Bulletin, 1886 (1887), vol. VI, p. 186.
- Smith, A. C.:** Notes on the lobster—*Homarus americanus*. Bulletin, 1885 (1885), vol. V, p. 121-125. F18-383

PHYSIOLOGY.

- Bumpus, Hermon Carey:** On the movements of certain lobsters liberated at Woods Hole during the summer of 1898. Bulletin, 1899 (1901), vol. XIX, p. 225-230, fold. map. Doc. 442 issued Sept. 12, 1900. F12-82
- Churchill, Edward Perry:** [Migration of crabs in Chesapeake Bay.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 108-113.
- [Moulting and autotomy of the blue crab.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 104-108.

- Herrick, Francis Hobart:** [Moulting and growth of the lobster.] Bulletin, 1895 (1896), vol. XV, p. 75-99.
- [Regeneration of lost parts.] Bulletin, 1895 (1896), vol. XV, p. 20-27.
- [Periodical migration and their relation to changes in the environment.] Bulletin, 1895 (1896), vol. XV, p. 20-27.
- Mather, Fred:** What we know about the lobster. Bulletin, 1893 (1894), vol. XIII, p. 281-286. *Doc. 265 issued June 9, 1894.* F12-183
- Parker, George Howard:** The reactions of copepods to various stimuli and the bearing of this on daily depth-migrations. (Papers quoted: p. 123.) Bulletin, 1901 (1902), vol. XXI, p. 103-123. *Doc. 497 issued May 23, 1902.* F12-237
- Smith, Albert W.:** [Composition of the shell and gastroliths of the lobster.] Bulletin, 1895 (1896), vol. XV, p. 227-228.

TEMPERATURE—PHYSIOLOGICAL EFFECT.

- Wood, William Maxwell:** Transplanting lobsters to the Chesapeake—Experiments upon the temperature they can endure. Bulletin, 1885 (1885), vol. V, p. 31-32. F18-368

NUTRITION.

- Herrick, Francis Hobart:** [Food of the lobster.] Bulletin, 1895 (1896) vol. XV, p. 29-32.

PATHOLOGY.

DISEASES AND PESTS.

- Coker, Robert Ervin:** Notes on a species of barnacle (*Dichelaspis*) parasitic on the gills of the edible crabs. (Literature cited: p. 412.) Bulletin, 1901 (1902), vol. XXI, p. 399-412, illus. *Doc. 503 issued Oct. 23, 1902.* F12-279
- Gorham, Frederic Poole:** The causes of death in the artificially reared lobster-fry. Report of the special commission for the investigation of the lobster and soft-shell clam. Report, 1903 (1905), p. 175-193.
- Raveret-Wattel, C.:** Notes on a disease affecting crawfish in Germany. Bulletin, 1884 (1884), vol. IV, p. 299-302. F13-109
- Thompson, Millett T.:** A new isopod parasite on the hermit crab. (Bibliography: p. 56.) Bulletin, 1901 (1902), vol. XXI, p. 53-56, pl. 9-10. *Doc. 478 issued Oct. 18, 1901.* F12-268

ENEMIES.

- Herrick, Francis Hobart:** [Enemies of the lobster.] Bulletin, 1895 (1896), vol. XV, p. 120-124.

EMBRYOLOGY.

- Churchill, Edward Perry:** [Reproduction in the blue crab.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 115-123.
- Hay, William Perry:** The life history of the blue crab (*Callinectes sapidus*). Report 1904 (1905), p. 395-413. *Document 580 issued Sept. 5, 1904.* F10-10
- Herrick, Francis H.:** The habits and development of the lobster and their bearing upon its artificial propagation. Bulletin, 1893 (1894), vol. XIII, p. 75-86. *Doc. 247 issued June 26, 1894.* F12-183
- The American lobster: A study of its habits and development. (Bibliography: p. 229-237.) Bulletin, 1895 (1896), vol. XV, 252 p., illus., A-J, 54 pl. (partly col.). *Doc. 300 issued Feb. 14, 1896.* F12-249
- [Spawning habits of the lobster.] Bulletin, 1897 (1898), vol. XVII, p. 218-219.
- The reproductive period in the lobster. Bulletin, 1901 (1902), vol. XXI, p. 161-166, illus. *Doc. 500 issued Oct. 1, 1902.* F12-276
- Natural history of the American lobster. (Bibliography: p. 384-408.) Bulletin, 1909 (1911), vol. XXIX, p. 149-408, illus., pl. XXVIII-XLVII (partly col.). *Doc. 747 issued July 13, 1911.* F11-278
- Mather, Fred:** What we know of the lobster. Bulletin, 1893 (1894), vol. XIII, p. 281-286. *Doc. 265 issued June 9, 1894.* F12-183

CULTURE.

CRABS.

- Leslie, Charles G.:** On the cultivation of soft-shell crabs. Bulletin, 1884 (1884), vol. IV, p. 256. F18-301

CRAWFISH.

- Rubelius, H.:** Crawfish culture in Europe. Report, 1879 (1882), p. 767-770. F17-21
Wozelka-Iglau, Karl: Contributions toward the improvement of the culture of the salmonoids and crawfish in smaller water-courses. Bulletin, 1895 (1896), vol. XV, p. 369-378. Doc. 308 issued 1896. F12-250

LOBSTER.

- B.:** On the artificial propagation of the lobster. Report, 1873-74 and 1874-75 (1876), p. 267-269. F16-16
Dannevig, Gunder Mathisen: Success in hatching lobster eggs in Norway. Bulletin, 1885 (1885), vol. V, p. 280. F18-438
 ——— Artificial hatching of salt-water fish and lobsters in Norway. Bulletin, 1885 (1885), vol. V, p. 437-440. F18-501
 ——— Hatching lobsters in Norway. Bulletin, 1885 (1885), vol. V, p. 446. F18-503
 ——— Hatching lobsters and cod in Norway. Bulletin, 1886 (1887), vol. VI, p. 13-14. F18-562
Gorham, Frederic Poole: [The causes of death in artificially reared lobster-fry.] Report of the special commission for the investigation of the lobster and soft-shell clam. Report, 1903 (1905), p. 175-193, pls.
Herrick, Francis Hobart: The habits and development of the lobster and their bearing upon its artificial propagation. Bulletin, 1893 (1894), vol. XIII, p. 75-86. Doc. 247 issued June 26, 1894. F12-183
Mead, Albert Davis: A method of lobster-culture. (With discussion by Henry T. Root.) Bulletin, 1908 (1910), vol. XXVIII, p. 219-240, illus., pl. VII-XI. Doc. 654 issued February, 1910. 10-35151
Perrin, M. L.: Transportation of lobsters to California. Report, 1873-74 and 1874-75 (1876), p. 259-265. F16-15
Rathbun, Richard: Notes on lobster culture. Bulletin, 1886 (1887), vol. VI, p. 17-32. F18-528
 ——— The transplanting of lobsters to the Pacific coast of the United States. Bulletin, 1885 (1890), vol. VIII, p. 453-472, pl. LXX-LXXI. Doc. 146 issued Apr. 25, 1891. F16-82
 ——— [Development and propagation of the lobster.] Report, 1888 (1891), p. XCVII-CII.
Sherwood, George H.: [Experiments in lobster rearing.] Report, 1903 (1905), p. 149-174 incl. tables, illus., pls.
Smith, Hugh McCormick: [Introduction of the eastern lobster to the Pacific coast.] Bulletin, 1895 (1896), vol. XV, p. 459-464.
 ——— [Propagation of the American lobster.] Report, 1897 (1898), p. 229-238; also in Manual of fish-culture, rev. ed., 1900, p. 229-238.
Wood, W. M.: The transplanting of one hundred lobsters from the eastern part of Long Island to Chesapeake Bay. Bulletin, 1884 (1884), vol. IV, p. 16. F18-208
 ——— Transplanting lobsters to the Chesapeake—Experiments upon the temperature they can endure. Bulletin, 1885 (1885), vol. V, p. 31-32. F18-368

SHRIMP.

- Mather, Fred:** Notes on cod, shrimp, etc., at Cold Springs Harbor. Bulletin, 1884 (1884), vol. IV, p. 123. F18-242

FISHERIES.

UNITED STATES.

CRABS.

- Churchill, Edward Perry:** Crab industry of Chesapeake Bay. Appendix IV, Report, 1918 (1920), 25 p., XII pl. Doc. 868 issued Aug. 12, 1919. F19-36
McMenamin & Co.: Method of catching crabs [in Virginia]. Bulletin, 1884 (1884), vol. IV, p. 48. F18-212
Marsh, Millard Caleb, and John Nathan Cobb: The fisheries of Alaska in 1910. (Crabs: p. 51.) Report and special papers, 1910 (1911), 72 p. Doc. 746 issued Apr. 19, 1911. 7-35263
Rathbun, Richard: [The crab fisheries.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 629-658.
Roberts, Winthrop A.: The crab industry of Maryland. Appendix, Report, 1904 (1905), p. 415-432. Doc. 581 issued Sept. 5, 1905. F10-11
Smith, H. M.: Notes on the crab fishery of Crisfield, Md. Bulletin, 1889 (1891), vol. IX, p. 103-112, pl. 36-41. Doc. 155 issued June 16, 1891. F12-143

- Smith, Hugh McCormick:** Notes on the king-crab fishery of Delaware Bay. Bulletin, 1889 (1891), vol. IX, p. 363-370. *Doc. 166 issued July 17, 1891.* F15-53
- U. S. Bureau of Fisheries:** [Comparative statistics of the crab product of Maryland and Virginia for various years from 1880 to 1915.] Report, 1916 (1917), p. 64.
- [Statistics of the crab industry of Maryland and Virginia in 1915.] Report, 1916 (1917), p. 60-64.

CRAWFISH.

- Oregonian:** [Crawfish trade.] Bulletin, 1894 (1895), vol. XIV, p. 288.
- Rathbun, Richard:** [The crayfish fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 794-797.
- Sterling, E.:** [How to catch crawfish.] Bulletin, 1886 (1887), vol. VI, p. 457-458.

LOBSTER.

- Alexander, Alvin:** [Lobster fishery on the Pacific coast.] Report, 1894 (1896), p. 150-151.
- Cobb, John Nathan:** The lobster fishery of Maine. Bulletin, 1899 (1901), vol. XIX, p. 241-265, illus., pl. 28-32. *Doc. 445 issued Sept. 6, 1900.* F12-83
- Field, George Wilton:** Lobsters and lobster problem. [With discussion by Henry T. Root, W. H. Boardman, James Donahue, Charles E. Fryer, and Paul North.] Bulletin, 1907 (1908), vol. XXVIII, p. 209-217. *Doc. 653 issued Feb. 12, 1910.* 10-35153
- Herrick, Francis H.:** The protection of the lobster fishery. Bulletin, 1897 (1898), vol. XVII, p. 217-224. *Doc. 373 issued 1898.* F12-110
- Nye, Willard:** [Menhaden, herring, eels, and lobsters.] Bulletin, 1884 (1884), vol. IV, p. 312.
- Rathbun, Richard:** Notes on the decrease of lobsters. Bulletin, 1884 (1884), vol. IV, p. 421-426. F13-118
- Notes on lobster culture. Bulletin, 1886 (1887), vol. VI, p. 17-32. F18-528
- [The lobster fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 658-794.
- [The rock-lobster fishery.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 798-799.
- Smith, A. C.:** Notes on the lobster—*Homarus americanus*. Bulletin, 1885 (1885), vol. V, p. 121-125. F18-383
- [Bait for lobsters.] Bulletin, 1885 (1885), vol. V, p. 111.
- Smith, Hugh McCormick:** [Lobster fishery of New England.] Report, 1892 (1894), p. CLXXVII-CLXXVIII, p. 130-132.
- [Spiny lobster fishing of California.] Bulletin, 1894 (1895), vol. XIV, p. 280-281.
- Stevenson, Charles Hugh:** [Importation of lobsters and other crustaceans.] Report, 1894 (1896), p. 431-571. F11-191
- U. S. Bureau of Fisheries:** Report of the special commission for the investigation of the lobster and the soft-shell clam. (*Contents*—I. General account of the lobster and clam investigations, by H. M. Smith. II. Experiments in lobster rearing, by G. H. Sherwood. III. The causes of death in artificially reared lobster fry, by Frederic P. Gorham. IV. Conditions governing the existence and growth of the soft-shell clam, *Mya arenaria*, by James L. Kellogg.) Report, 1903 (1904), p. 139-224, pl. I-X. *Doc. 554 issued Jan. 21, 1905.* F11-10
- [Statistics of the lobster fishery of the Atlantic Coast States in 1913.] Report, 1915 (1917), p. 37-43.

SHRIMP.

- Rathbun, Richard:** Notes on the shrimp and prawn fisheries of the United States. Bulletin, 1882 (1883), vol. II, p. 139-152. F12-353
- [The shrimp and prawn fisheries.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXI, p. 799-810.
- Townsend, Charles Haskins:** [Shrimp fishery of San Francisco Bay.] Report, 1900 (1901), p. 182-183.
- U. S. Bureau of Fisheries:** [Statistics of the shrimp industry of the South Atlantic and Gulf States in 1916.] Report, 1917 (1919), p. 6-11.

EUROPE.

CRABS.

- Crab fisheries proposed in Denmark. Bulletin, 1886 (1887), vol. VI, p. 155-156. F18-564

LOBSTER.

- Boeck, Axel, i. e. Jonas Axel:** The Norwegian lobster fishery and its history. Report, 1873-74 and 1874-75 (1876), p. 223-258. F16-14
Friele, M.: [Lobster fisheries of Norway in 1877.] Report, 1877 (1879), p. 733-734. [Lobsters and oysters in Norway.] Bulletin, 1886 (1887), vol. VI, p. 306.
Sars, George Ossian: Lobster fisheries of Norway during the years 1874-1877. Report, 1877 (1879), p. 674-680. F16-112

ASIA.

- Japan. Bureau of Agriculture:** [The crustacean fisheries of Japan.] Bulletin, 1893 (1894), vol. XIII, p. 433-434.

PRESERVATION.

CRABS.

- Churchill, Edward Perry:** [Preparation of crabs for market.] Appendix IV, Report, 1918 (1920), p. 19-24.
Smith, Hugh McCormick: [King crab fertilizer.] Bulletin, 1889 (1891), vol. IX, p. 368.
 — Preparation of crab meat. Bulletin, 1889 (1891), vol. IX, p. 111.

LOBSTER.

- Cobb, John Nathan:** Lobster canning industry. Bulletin, 1889 (1891), vol. IX, p. 255.

SHRIMP.

- Macgowan, D. J.:** [Preparation of shrimps in China.] Bulletin, 1886 (1887), vol. VI, p. 451.

LEGISLATION FOR LOBSTER.

- Boeck, Axel, i. e. Jonas Axel:** [Lobster trade and the history of its legislation.] Report, 1873-74 and 1874-75 (1876), p. 32.
Herrick, Francis Hobert: The protection of the lobster fishery. Bulletin, 1897 (1898), vol. XVII, p. 217-224. *Doc. 373 issued Aug. 8, 1898.* F12-110

GEOGRAPHICAL DISTRIBUTION.

UNITED STATES.

GENERAL.

- Rathbun, Richard:** Natural history of economic crustaceans of the United States. (Extract from The fisheries and fishery industries of the United States. 1884. Sec. 1, pt. V, p. 763-830.) *Doc. 224 issued Nov. 15, 1893.* F11-350
Smith, Sidney Irving: Crustacea of the fresh waters of the United States. Report 1872-73 (1874), p. 637-665, III pl. *Doc. 5 issued 1874.* F12-24
 — Report on the decapod crustacea of the *Albatross* dredgings off the east coast of the United States in 1883. Report, 1882 (1884), p. 345-426. *Doc. 78 issued Aug. 15, 1884.* F11-271
 — Report on the decapod crustaceans of the *Albatross* dredgings off the east coast of the United States during the summer and autumn of 1884. Report, 1885 (1887), p. 605-705, XX pl. *Doc. 105 issued Sept. 1, 1886.* F11-250
Verrill, Addison Emory: Report upon the invertebrate animals of Vineyard Sound and adjacent waters, with an account of the physical features of the region. Report, 1871 and 1872 (1873), p. 295-778, XXXVIII pl. F15-102

ALASKA.

- Richardson, Harriet:** Isopods from the Alaska salmon investigation. Bulletin, 1904 (1905), vol. XXIV, p. 209-221, illus. *Doc. 564 issued Feb. 18, 1905.* F12-8

NORTH CAROLINA.

- Hay, William P., and S. A. Shore:** The decapod crustaceans of Beaufort, N. C., and the surrounding region. (Bibliography: p. 465-472.) Bulletin, 1915-16 (1918), vol. XXXV, p. 371-475, illus., pl. XXV-XXXIX. *Doc. 859 issued Apr. 6, 1918.* F18-517

TEXAS.

Rathbun, Mary Jane: [List of crustacea collected in Texas in 1891.] Bulletin, 1891 (1893), vol. XI, p. 89-90.

NEW ENGLAND.

Harger, Oscar: Report on the marine isopoda of New England and adjacent waters. Report, 1878 (1880), p. 297-462, pl. I-XIII. *Doc. 32 issued Jan. 27, 1881.* F11-211

Holmes, Samuel Jackson: The Amphipoda of southern New England. Bulletin, 1904 (1905), vol. XXIV, p. 457-541, illus., XIII pl. *Doc. 585 issued Nov. 8, 1905.* F12-14

Verrill, Addison Emory: Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound. Report, 1882 (1884), p. 641-669. *Doc. 83 issued Aug. 15, 1884.* F11-267

Wheeler, William Morton: The free-swimming copepods of the Woods Hole region. Bulletin, 1899 (1901), vol. XIX, p. 157-192, illus. *Doc. 439 issued Aug. 30, 1900.* F12-92

Wilson, Charles Branch: The fish parasites of the genus *Argulus* found in the Woods Hole region. Bulletin, 1904 (1905), vol. XXIV, p. 115-131, illus. *Doc. 561 issued Feb. 14, 1905.* F12-5

Wilson, Edmund Beecher: Report on the Pycnogonida of New England and adjacent waters. Report, 1878 (1880), p. 463-506, VII pl. *Doc. 34 issued Jan. 27, 1881.* F16-163

LAKE SUPERIOR.

Forbes, Stephen Alfred: On some Lake Superior Entomostraca. Report, 1887 (1891), p. 701-718, IV pl. *Doc. 174 issued Aug. 24, 1891.* F11-336

PORTO RICO.

Benedict, James E.: The Anomuran collections made by the *Fish Hawk* expedition to Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 128-248, illus., pl. 3-6. *Doc. 460 issued Oct. 2, 1901.* F12-253

Bigelow, Maurice Alpheus: The Cirripedia collected near Porto Rico by the *Fish Hawk* expedition in 1898-99. Bulletin, 1900 (1902), vol. XX, pt. II, p. 177-180. *Doc. 463 issued Oct. 2, 1901.* F12-256

Bigelow, Robert Payne: The Stomatopoda of Porto Rico. ("The more important literature on Stomatopoda." p. 160.) Bulletin, 1900 (1902), vol. XX, pt. II, p. 149-160, illus. *Doc. 461 issued Oct. 2, 1901.* F12-254

Moore, Henry Frank: Report on Porto Rican Isopoda. Bulletin, 1900 (1902), vol. XX, pt. II, p. 161-176, pl. 7-11. *Doc. 462 issued Oct. 2, 1901.* F12-255

Rathbun, Mary Jane: The Brachyura and Macrura of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 1-127, illus., 2 col. pl. *Doc. 459 issued Sept. 26, 1901.* F12-252

JAPAN.

Pilsbry, Henry Augustus: Barnacles of Japan and Bering Sea. Bulletin, 1909 (1911), vol. XXIX, p. 59-84, illus., pl. VIII-XVII. *Doc. 739 issued Feb. 17, 1911.* F11-75

OCEANICA.

HAWAIIAN ISLANDS.

Ortmann, Arnold Edward: Schizopods of the Hawaiian Islands collected by the steamer *Albatross* in 1902. Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 961-973. *Doc. 588 issued Dec. 28, 1905.* F11-384

Pilsbry, Henry Augustus: Hawaiian Cirripedia. Bulletin, 1906 (1907), vol. XXVI, p. 179-190, pl. IV-V. *Doc. 617 issued Jan. 29, 1907.* F11-65

Rathbun, Mary Jane: The Brachyura and Macrura of the Hawaiian Islands. (Bibliography: p. 929-930.) Bulletin 1903 (1906), vol. XXIII, pt. III, p. 827-930, front., illus., XXIV pl. (partly col.). *Doc. 382 issued 1898.* F11-382

Richardson, Harriet: Isopods collected at the Hawaiian Islands by the United States Fish Commission steamer *Albatross*. (List of references: p. 26.) Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 817-826, illus. *Doc. 542 issued Sept. 17, 1903.* F11-380

PHILIPPINE ISLANDS.

Richardson, Harriet: Marine isopods collected in the Philippines by the U. S. fisheries steamer *Albatross* in 1907-8. 1910. 44 p., illus. *Doc. 736 issued 1910.* F11-32

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- Potts, Edward:** Fresh-water sponges: what, where, when, and who wants them. Bulletin, 1883 (1883), vol. III, p. 389-391, illus. *Doc. 63 issued Oct. 29, 1883.* F11-313
- Verrill, Addison Emory:** Report upon the invertebrate animals of Vineyard Sound and adjacent waters, with an account of the physical features of the region. Report, 1871 and 1872 (1873), p. 295-778. F15-102
- Results of the explorations made by the steamer *Albatross* off the northern coast of the United States in 1883. Report, 1883 (1885), p. 503-699, XLIV pl. *Doc. 99 issued Aug. 16, 1886.* F11-243
- Vosmaer, G. C. J.:** [Netherland sponges.] Report, 1880 (1883), p. 1019.
- Wilson, Henry Van Peters:** The sponges collected in Porto Rico in 1899, by the U. S. Fish commission steamer *Fish Hawk*. (Literature references: p. 411.) Bulletin, 1900 (1902) vol. XX, part II, p. 375-411. *Doc. 471 issued Mar. 28, 1902.* F12-418

CULTURE.

- Buccich:** [Propagating sponges from cuttings.] Report, 1896 (1898), p. 272-275.
- Cotte, Jules:** Sponge culture. (Bibliography: p. 613-614.) Bulletin, 1908 (1910), vol. XXVIII, p. 587-614. *Doc. 670 issued April, 1910.* 10-35433
- Fogarty, J.:** [Propagating sponges from clippings.] Report, 1896 (1898), p. 271.
- Marenzeller, Emil, edler von:** The raising of sponges from cuttings. Report, 1879 (1882), p. 771-777. F17-22
- Monroe, Ralph M.:** [Account of sponge-cultural experiments in Biscayne Bay.] Report, 1895 (1896), p. 187-188.
- Moore, H. Frank:** A practical method of sponge culture. Bulletin, 1908 (1910), vol. XXVIII, p. 545-585, illus., pl. LXVII-LXXVI, diags. *Doc. 669 issued Apr. 4, 1910.* 10-35434
- Rathbun, Richard:** [Reproduction in sponges.] Report, 1889-1891 (1893), p. 167.
- Smith, Hugh McCormick:** [Cultivation of sponges from cuttings.] Bulletin, 1897 (1898), vol. XVII, p. 236-238.
- [Sponge planting experiments.] Report, 1901 (1902), p. 122-123; 1902 (1904), p. 125-127; 1903 (1905), p. 86-88.
- U. S. Commissioner of Fisheries:** [Propagating sponges from cuttings.] Report, 1878 (1880), p. XLIV-XLV.
- Experiments in sponge culture. Report, 1905 (1907), p. 22; 1906 (1908), p. 13; 1907 (1909), p. 11-12; 1908 (1910), p. 10; 1909 (1911), p. 14-15; 1910 (1911), p. 17-18.
- Wilson, Henry Van Peters:** On the feasibility of raising sponges from the egg. Bulletin, 1897 (1898), vol. XVII, p. 241-245. *Doc. 375 issued Aug. 8, 1898.* F12-110
- Development of sponges from tissue cells outside the body of the parent. Bulletin, 1908 (1910), vol. XXVIII, p. 1265-1271. *Doc. 717 issued May 5, 1910.* 10-35648
- Development of sponges from dissociated tissue cells. Bulletin, 1910 (1912), vol. XXX, p. 1-30, pl. I-V. *Doc. 750 issued June 16, 1911.* F11-220

FISHERIES.

- Arapian, E. J.:** [Florida sponge fisheries.] Report, 1896 (1898), p. 276-278.
- Brice, John J.:** [Commercial sponges of Florida.] Report, 1896 (1898), p. 266-271.
- Cobb, John Nathan:** The sponge fisheries of Florida in 1900. Report, 1902 (1904), p. 161-175, pl. 6-9. *Doc. 535 issued Sept. 21, 1903.* F11-2
- Collins, Joseph William:** [Sponge fisheries of Key West.] Report, 1885 (1887), p. 246-258.

- Flégel, Charles:** The abuse of the scaphander in the sponge fisheries. Bulletin, 1908 (1910), vol. XXVIII, p. 513-543. *Doc. 668 issued March, 1910.* 10-35432
- Grady, John E.:** [Sponge fishing near Appalachicola, Fla.] Bulletin, 1886 (1887), vol. VI, p. 140.
- Moore, Henry Frank:** The commercial sponges and the sponge fisheries. (Bibliography: p. 511.) Bulletin, 1908 (1910), vol. XXVIII, p. 399-511, illus., pl. XXVIII-LXVI. *Doc. 667 issued Mar. 28, 1910.* 10-35431
- Rathbun, Richard:** The sponge fishery and trade. In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXIII, p. 817-841.
- Ruge, J. G.:** The sponge fisheries of Florida. Bulletin, 1887 (1889), vol. VII, p. 22-24. F18-641.
- Smith, Hugh McCormick:** [Sponge fishery of Biscayne Bay, Florida.] Report, 1895 (1896), p. 180-182.
- The Florida commercial sponges. Bulletin, 1897 (1898), vol. XVII, p. 225-240, pl. 12-31. *Doc. 374 issued Aug. 5, 1898.* F12-110
- Notes on the Florida sponge fishery in 1899. Bulletin, 1899 (1901), vol. XIX, p. 149-151. *Doc. 437 issued Aug. 30, 1900.* F12-29
- Stevenson, Charles Hugh:** [Foreign trade in sponges.] Report, 1894 (1896), p. 542-545.
- U. S. Bureau of Fisheries:** [Sponge fishery of the Gulf States.] Report, 1899 (1900), p. 126.
- [Sponge fishery of Florida.] Report, 1901 (1902), p. 156.
- [Florida sponge fisheries.] Report, 1913 (1914), p. 68-69.

LEGISLATION.

- Law unenforceable.** Report, 1910 (1911), p. 37; 1911 (1913), p. 53; 1913 (1914), p. 68.
- Spongelaw.** (Act of June 20, 1906). Report, 1910 (1911), p. 37-38; 1911 (1913), p. 52.

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- Certes, A.:** Note upon the effect of high pressures on the vitality of minute fresh-water and salt-water organisms. Bulletin, 1884 (1884), vol. IV, p. 433-435. F18-358
- Forbes, Stephen Alfred:** Preliminary report upon the invertebrate animals inhabiting Lakes Geneva and Mendota, Wisconsin, with an account of the fish epidemic in Lake Mendota in 1884. Bulletin, 1888 (1890), vol. VIII, p. 473-487. Doc. 147 issued Mar. 25, 1891. F11-328
- A preliminary report on the aquatic invertebrate fauna of the Yellowstone national park, Wyoming, and of the Flathead region of Montana. Bulletin, 1891 (1893), vol. XI, p. 207-258, pl. XXXVII-XLII. Doc. 210 issued Apr. 28, 1893. F12-126
- Martens, J. B.:** Life in the sea. Bulletin, 1882 (1883), vol. II, p. 253-265. F12-362
- Needham, James G.:** Burrowing mayflies of our larger lakes and streams. (Bibliography: p. 289-291.) Bulletin, 1917-18 (1921), vol. XXXVI, p. 265-293, pl. LXX-LXXXII. Doc. 883 issued July 17, 1920. F20-154
- Smith, Sidney Irving:** Sketch of the invertebrate fauna of Lake Superior. Report, 1872-73 (1874), p. 690-707. Doc. 6 issued 1874. F12-215
- Sumner, Francis Bartody:** An intensive study of the fauna and flora of a restricted area of sea bottom. Bulletin, 1908 (1910), vol. XXVIII, p. 1225-1263, charts (1 fold.), fold. diagr. Doc. 716 issued May 14, 1910. 10-35677
- A biological survey of the waters of Woods Hole and vicinity. Section III. A catalogue of the marine fauna of Woods Hole and vicinity. (Bibliography: p. 782-794.) Bulletin, 1911 (1913), vol. XXXI, p. 545-794. F12-215
- U. S. Bureau of Fisheries:** List of collections made by the fishing vessels of Gloucester and other New England seaports for the United States Fish commission from 1877 to 1880. Report, 1879 (1882), p. 787-835. F17-23
- U. S. Fisheries Biological Laboratory, Woods Hole:** Biological notes no. 1. Bulletin, 1899 (1901), vol. XIX, p. 305-310. Doc. 447 issued Aug. 30, 1900. 7-3152
- Verrill, Addison Emory, and S. I. Smith:** Report upon the invertebrate animals of Vineyard Sound and adjacent waters, with an account of the physical features of the region. Report, 1871 and 1872 (1873), p. 295-778. F15-102
- Notice of the remarkable marine fauna occupying the outer banks off the southern coast of New England, and of some additions to the fauna of Vineyard Sound. Report, 1882 (1884), p. 641-669. Doc. 83 issued Aug. 15, 1884. F11-267
- Wilson, Charles Branch:** Dragonflies and damselflies in relation to pondfish culture, with a list of those found near Fairport, Iowa. (Bibliography: p. 260-264.) Bulletin, 1917-18 (1921), vol. XXXVI, p. 179-264, illus., pl. LXVII. Doc. 882 issued Aug. 4, 1920. F20-160

PROTOZOA.

- Calkins, Gary Nathan:** Marine Protozoa from Woods Hole. (List of references: p. 466-468.) Bulletin, 1901 (1902), vol. XXI, p. 413-468, illus. Doc. 502 issued Oct. 21, 1902. F12-262
- Certes, A.:** Note upon the effect of high pressure on the vitality of minute fresh-water and salt-water organisms. Bulletin, 1884 (1884), vol. IV, p. 433-435. F18-358
- Flint, James Milton:** The Foraminifera of Porto Rico. Bulletin, 1900 (1902), vol. XX, part II, p. 413-416. Doc. 484 issued Mar. 28, 1902. F12-265
- Gurley, R. R.:** On the classification of the Myxosporidia, a group of protozoan parasites infesting fishes. Bulletin, 1891 (1893), vol. XI, p. 407-420. Doc. 215 issued July 14, 1893. F12-157
- Jennings, Herbert Spencer:** A report of work on the Protozoa of Lake Erie, with special reference to the laws of their movements. Bulletin, 1899 (1901), vol. XIX, p. 105-114. Doc. 435 issued Aug. 30, 1899. F12-47

- Linton, Edwin:** On certain wart-like excrescences occurring on the short minnow, *Cyprinodon variegatus*, due to psorosperms. Bulletin, 1889 (1891), vol. IX, p. 99-102. Doc. 154 issued June 11, 1891. F12-142
- Notice of the occurrence of protozoan parasites (psorosperms) on cyprinoid fishes in Ohio. Bulletin, 1889 (1891), vol. IX, p. 359-361, pl. CXX. Doc. 165 issued July 7, 1891. F12-153
- Stiles, Charles Wardell:** Report on a parasitic protozoan observed on fish in the aquarium of the U. S. Fish commission at the World's fair. (Bibliography: p. 175.) Bulletin, 1893 (1894), vol. XIII, p. 173-190. Doc. 253 issued 1894. F12-183

COELENTERATA.

- Collins, Joseph William:** On the occurrence of corals on the Grand Banks. Bulletin, 1884 (1884), vol. IV, p. 237. F18-295
- Duerden, James Edwin:** Report on the actinians of Porto Rico. (References: p. 370-371.) Bulletin, 1900 (1902), vol. XX, pt. II, p. 321-374, XII pls. Doc. 470 issued Apr. 7, 1902. F12-261
- Fewkes, Jesse Walter:** Report on the Medusæ collected by the U. S. Fish commission steamer *Albatross* in the region of the Gulf Stream in 1883-84. Report, 1884 (1886), p. 927-980, X pl. Doc. 113 issued Dec. 1, 1886. F11-260
- Report on the Medusæ collected by the U. S. Fish commission steamer *Albatross* in the region of the Gulf Stream in 1885 and 1886. Report, 1886 (1889), p. 513-536. Doc. 129 issued May 24, 1889. F11-256
- Fraser, C. McLean:** Some hydroids of Beaufort, North Carolina. (Bibliography: p. 384-387.) Bulletin, 1910 (1912), vol. XXX, p. 337-387, illus. Doc. 762 issued July 25, 1912. F12-201
- Hargitt, Charles Wesley:** The Anthozoa of the Woods Hole region. (Literature cited: p. 252-253.) Bulletin, 1902 (1903), vol. XXXII, p. 223-254, illus., pl. XLI-XLIV (part. col.). Doc. 783 issued Apr. 25, 1914. F14-45
- The Medusæ of the Woods Hole region. (Literature cited: p. 73-75.) Bulletin, 1904 (1905), vol. XXIV, p. 21-79, illus., VII col. pl. Doc. 558 issued Feb. 14, 1905. F12-2
- Hargitt, Charles Wesley, and Charles G. Rogers:** The Alcyonaria of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 265-287, illus., IV pls. Doc. 468 issued Dec. 12, 1901. F12-260
- Mayer, Alfred Goldsborough:** Medusæ of the Hawaiian Islands collected by the steamer *Albatross* in 1902. (Bibliography: p. 1142-1143.) Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 1131-1143, III pl. Doc. 600 issued June 30, 1906. F11-387
- Nutting, Charles Cleveland:** The hydroids of the Woods Hole region. Bulletin, 1899 (1901), vol. XIX, p. 325-386, illus. Doc. 455 issued June 10, 1901. F12-90
- Hydroids of the Hawaiian Islands collected by the steamer *Albatross* in 1902. Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 931-959, XIII pl. Doc. 586 issued Dec. 23, 1905. F11-383
- Vaughan, Thomas Wayland:** The stony corals of the Porto Rican waters. Bulletin, 1900 (1902), vol. XX, pt. II, p. 289-320, XXXVIII pls. Doc. 469 issued Dec. 14, 1901. F12-415

PLATHELMINTHES.

- Coe, Wesley Roswell:** The nemerteans of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 222-229. Doc. 466 issued Oct. 8, 1901. F12-258
- The nemerteans of the Hawaiian Islands collected by the steamer *Albatross* in 1902. Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 975-986, illus., pl. Doc. 589 issued Mar. 14, 1906. F11-385
- Danglade, Ernest:** The flatworm as an enemy of Florida oysters. Appendix X, Report, 1918 (1920), 8 p., II pl. Doc. 869 issued June 20, 1919. F19-30
- Linton, Edwin:** Notes on Entozoa of marine fishes of New England, with descriptions of several new species. Report, 1886 (1889), p. 453-511, VI pl. Doc. 128 issued 1889. F11-255
- On two species of larval Dibothria from the Yellowstone national park. Bulletin, 1889 (1891), vol. IX, p. 65-79, pl. XXIII-XXVII. Doc. 150 issued June 5, 1891. F12-138
- Notes on Entozoa of marine fishes of New England, with descriptions of several new species. Part II. Report, 1887 (1891), p. 719-900, XV pl. Doc. 175 issued Aug. 24, 1891. F11-337

- Linton, Edwin:** Notes on the Entozoa of marine fishes, with descriptions of new species. Part III. Report, 1888-89 (1892), p. 523-542, pl. LIII-LX. *Doc. 182 issued July 1, 1892.* F12-224
- The anatomy of *Thysanocephalum crispum* Linton, a parasite of the tiger shark. Report, 1888-89 (1892), p. 543-556, pl. LXI-LXVII. *Doc. 183 issued July 2, 1892.* F12-225
- Fish Entozoa from Yellowstone national park. Report, 1889-1891 (1893), p. 545-564, pl. 63-67. *Doc. 220 issued Oct. 25, 1893.* F12-230

ROTIFERA.

- Jennings, Herbert Spencer:** Rotatoria of the United States, with especial reference to those of the Great Lakes. (Literature cited: p. 102.) Bulletin, 1899 (1901), vol. XIX, p. 67-104, pl. 14-22. *Doc. 434 issued Aug. 30, 1900.* F12-46
- Rotatoria of the United States. II. A monograph of the Rattulidæ. (Literature cited: p. 345-347.) Bulletin, 1902 (1904), vol. XXII, p. 273-352, illus., XV pl. *Doc. 528 issued July 23, 1903.* F12-67

COELHELMINTHES.

- Eisen, Gustav:** Oligochætological researches. Report, 1883 (1885), p. 879-964, XIX pl. *Doc. 101 issued Aug. 16, 1886.* F11-245
- Hessel, Rudolph:** Artificial culture of medicinal leeches and of species of Helix. Bulletin, 1881 (1882), vol. I, p. 264-265. F18-51
- Leech culture. Bulletin, 1884 (1884), vol. IV, p. 175-176. F18-269
- Linton, Edwin:** [Notes on nematodes which have been collected in successive years in the waters of southern New England.] Bulletin, 1899 (1901), vol. XIX, p. 405-492.
- Moore, John Percy:** Descriptions of two new leeches from Porto Rico. (List of papers cited: p. 221.) Bulletin, 1900 (1902), vol. XX, pt. II, p. 211-222, pl. 13-14. *Doc. 465 issued Oct. 4, 1901.* F12-257
- Hirudinea and Oligochætæ collected in the Great Lakes region. Bulletin, 1905 (1906), vol. XXV, p. 153-171, illus., pl. XXXII (col.). *Doc. 598 issued Aug. 25, 1906.* F11-69
- Osburn, Raymond C.:** The Bryozoa of the Woods Hole region. Bulletin, 1910 (1912), vol. XXX, p. 203-266, pl. XVIII-XXXI. *Doc. 760 issued June 25, 1912.* F12-170
- Rathbun, Richard:** [The leech industry.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXII, p. 811-815.
- Treadwell, Aaron Louis:** The polychætous annelids of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 181-210, illus. *Doc. 464 issued Oct. 4, 1901.* F12-414
- Polychætous annelids of the Hawaiian Islands, collected by the steamer *Albatross* in 1902. Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 1145-1181, illus. *Doc. 388 issued Aug. 8, 1898.* F11-388
- Verrill, Addison Emory:** Synopsis of North American fresh-water leeches. Report, 1872-73 (1874), p. 666-689. *Doc. 8 issued 1874.* F12-217
- Webster, H. E., and James E. Benedict:** The annelida Chaetopoda from Provincetown and Wellfleet, Massachusetts. Report, 1881 (1884), p. 699-747, VIII pl. *Doc. 68 issued Apr. 19, 1884.* F11-310
- The annelida Chaetopoda from Eastport, Maine. Report, 1885 (1887), p. 707-758, VIII pl. *Doc. 117 issued Oct. 31, 1887.* F11-284

ECHINODERMA.

- Clark, Hubert Lyman:** The synaptas of the New England coast. (Literature consulted: p. 31.) Bulletin, 1899 (1901), vol. XIX, p. 21-31, pl. 10-11 (partly col.). *Doc. 426 issued Dec. 13, 1899.* F12-42
- The echinoderms of Porto Rico. Bulletin, 1900 (1902), vol. XX, pt. II, p. 231-263, pl. 14-17. *Doc. 467 issued Oct. 4, 1901.* F12-259
- The echinoderms of the Woods Hole region. ("List of publications referring to the echinoderms of the Woods Hole region, or to which reference is made in the preceding pages": p. 572-574.) Bulletin, 1902 (1904), vol. XXII, p. 545-576, 14 pl. *Doc. 550 issued June 25, 1904.* F12-76 Rev.
- Fisher, Walter Kenrick:** The starfishes of the Hawaiian Islands. (Bibliography: p. 1120-1121.) Bulletin, 1903 (1906), vol. XXIII, pt. III, p. 987-1130, illus., XLIX pl. *Doc. 599 issued June 30, 1906.* F11-386
- New starfishes from deep water off California and Alaska. Bulletin, 1904 (1905), vol. XXIV, p. 291-320. *Doc. 572 issued June 10, 1905.* F12-11

- Mead, Albert Davis:** The natural history of the starfish. Bulletin, 1899 (1901), vol. XIX, p. 203-224, pl. 23-26. *Doc. 441 issued Aug. 29, 1900.* F12-89
- Rathbun, Richard:** [The trepang fishery at Key West.] In The fisheries and fishery industries of the United States. 1887. Sec. V, vol. 2, pt. XXII, p. 815-816.
- Swan, James Gilchrist:** The trepang fishery. Bulletin, 1886 (1887), vol. VI, p. 333-334. F18-604

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- [The **Fish-catching bladderwort** (*Utricularia*).] Bulletin, 1884 (1884), vol. IV, p. 456.
Forbes, Stephen Alfred: Destruction of fish-food by bladderwort (*Utricularia*).
 Bulletin, 1884 (1884), vol. IV, p. 443. F18-360
Halperine, E.: Piscivorous plants. Bulletin, 1885 (1885), vol. V, p. 353-356. F18-471
Moseley, Henry Nottidge: A carnivorous plant preying on Vertebrata. Bulletin,
 1884 (1884), vol. IV, p. 259-260. F18-304
 ——— The fish-eating *Utricularia*, or bladderwort. Bulletin, 1884 (1884), vol. IV, p.
 261. F18-305
Simms, George E.: A fish-eating plant. Bulletin, 1884 (1884), vol. IV, p. 257-259.
 F18-303

PHYSIOGRAPHIC REGIONS.

FRESH WATER.

- Brakeley, John H.:** [Plants for carp ponds.] Bulletin, 1884 (1884), vol. IV, p. 159-160.
Doolittle, A. A.: [The plankton environment: p. 65-77.] In *Fishes of Connecticut lakes and neighboring waters . . .* by W. C. Kendall and E. L. Goldsborough.
 Report and special papers, 1907 (1908), map, chart. Doc. 633 issued July 6, 1908.
 8-35558
Hessel, Rudolph: [Grass for carp ponds.] Bulletin, 1885 (1885), vol. V, p. 341.
Johnson, Robert Sidney: Fish ponds on farms. (Aquatic plants and their value
 in pond fish-culture: p. 15-16.) Appendix II, Report, 1915 (1917), 28 p. Doc.
 826 issued Dec. 15, 1915. F16-79
Moore, Emmeline: The *Potamogetons* in relation to pond culture. Bulletin, 1913
 (1915), vol. XXXIII, p. 251-291, pl. XXII-XXXIX. Doc. 815 issued July 28,
 1915. F15-84
 ——— Some plants of importance in pond-fish culture. (Bibliography: p. 19-20.)
 Appendix IV, Report, 1919 (1921), 20 p., fold. chart. Doc. 881 issued Mar. 24, 1920.
 F20-108
Pieters, Adrian John: The plants of western Lake Erie, with observations on their
 distribution. Bulletin, 1901 (1902), vol. XXI, p. 57-79, illus., pl. 11-20. Doc.
 479 issued Oct. 18, 1901. F12-33
Pond, Raymond Haines: The biological relation of aquatic plants to the substratum.
 Report, 1903 (1905), p. 483-526. Doc. 566 issued 1905. F11-13
Titcomb, John W.: Aquatic plants in pond culture. Report and special papers,
 1907 (1909), 31 p., pls., illus. Doc. 643 issued Feb. 8, 1909. 9-35225
U. S. Bureau of Fisheries: [Plants and seeds received at the carp ponds.] Bulletin,
 1885 (1885), vol. V, p. 339.
 ——— [*Zizania aquatica* for Germany.] Bulletin, 1885 (1885), vol. V, p. 465.
Ward, Lester Frank: List of water plants for carp ponds. Bulletin, 1882 (1883),
 vol. II, p. 22-23. F12-342
 ——— Marsh and aquatic plants of the northern United States, many of which are
 suitable for carp ponds. Bulletin, 1883 (1883), vol. III, p. 257-265. F12-395.
Yoakum, F. L.: [Water plants in carp culture.] Bulletin, 1882 (1883), vol. II, p.
 28-30.

SALT WATER.

- Davis, Bradley Moore:** A biological survey of the waters of Woods Hole and vicinity
 Section II. Botanical. General characteristics of the algal vegetation of Buz-
 zards Bay and Vineyard Sound in the vicinity of Woods Hole. (Literature cited:
 p. 497.) Section IV. A catalogue of marine flora of Woods Hole and vicinity.
 (Bibliography for floral catalogue: p. 832-833.) Bulletin, 1911 (1913), vol.
 XXXI, p. 443-544 incl. tables and charts: p. 795-833.
Farlow William Gibson: List of the sea-weeds or marine algæ of the south coast of
 New England. Report, 1871 and 1872 (1873), p. 281-293. F17-48
 ——— List of marine algæ in the United States. Report, 1875-76 (1878), 28 p. Doc.
 14 issued July, 1876. F11-207
 ——— Marine algæ of New England and adjacent coasts. (Bibliography: p. 192-
 197.) Report, 1879 (1882), 210 p., XV pl. Doc. 36 issued 1881. F11-213
Hoyt, W. D.: Marine algæ of Beaufort, N. C., and adjacent regions. (Bibliography:
 p. 539-547.) Bulletin, 1917-18 (1921), vol. XXXVI, p. 367-556, vp., illus.,
 LXXXIV-CXIX. Doc. 886 issued Dec. 30, 1920. F21-3
Martens, J.: Life in the sea. Bulletin, 1882 (1883), vol. II, p. 253-264. F12-362

Sumner, Francis Bertody: An intensive study of the fauna and flora of a restricted area of sea bottom. Bulletin, 1908 (1910), vol. XXVIII, p. 1225-1263, charts (1 fold.), fold. diagr. *Doc. 716 issued May 14, 1910.* 10-35677

ALGÆ.

Edwards, Vinal N.: [Notes upon fish and other objects on Cape Cod.] Bulletin, 1885 (1885), vol. V, p. 69.

Marsh, Millard Caleb: The treatment of fish-cultural waters for the removal of algæ. Bulletin, 1908 (1910), vol. XXVIII, p. 871-890, illus. *Doc. 687 issued April, 1910.* 10-35567

Snow, Julia W.: The plankton algæ of Lake Erie, with special reference to the Chlorophyceæ. (Literature: p. 393.) Bulletin, 1902 (1904), vol. XXII, p. 369-394, IV col. pls. *Doc. 529 issued Aug. 4, 1903.* F12-69

DIATOMS.

Gorham, Frederic Poole: [Life-history of diatoms and their relation to lobster-fry.] Report, 1903 (1905), p. 176-193, pl. IV-VI.

Lotsy, Johannes Paulus: Food of the oyster, clam, and ribbed mussel. Report, 1893 (1895), p. 375-386. *Doc. 313 issued 1896.* 6-44419

Mitchell, Philip Henry, and Raymond L. Barney: The occurrence in Virginia of green-gilled oysters similar to those of Marennes. (Bibliography: p. 149.) Bulletin, 1915-16 (1918), vol. XXXV, p. 137-149. *Doc. 850 issued Aug. 11, 1917.* F17-247

Puységur, M., and John A. Ryder: [On the cause of the greening of oysters, by M. Puységur, with a supplementary note on the coloration of the blood-corpuscles of the oyster by John A. Ryder.] Report, 1882 (1884), p. 793-805.

Ryder, John A.: [Deposits from seawater in Woods Hole Harbor.] Bulletin, 1885 (1885), vol. V, p. 68-69.

COMMERCIAL USE.

Clark, A. Howard: [Irish moss industry.] In The fisheries and fishery industries of the United States. 1887. Sec. II, pt. III, p. 219-220.

Hoyt, W. D.: [Economic uses of algæ.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 405.

Japan, Bureau of Agriculture: [Utilization of algæ.] Bulletin, 1893 (1894), vol. XIII, p. 434-435.

Smith, Hugh McCormick: The seaweed industries of Japan. The utilization of seaweeds in the United States. (References: p. 136.) Bulletin, 1904 (1905), vol. XXIV, p. 133-181, illus., V pl. *Doc. 562 issued Feb. 18, 1905.* F12-6

Stevenson, Charles Hugh: [Aquatic plants as fertilizer.] Report, 1902 (1903), p. 275-279.

Swan, James G.: [A preparation from the giant kelp of the Pacific.] Bulletin, 1886 (1887), vol. VI, p. 452.

—— [On the economic value of the giant kelp and other seaweeds of the northwest coast of North America.] Bulletin, 1893 (1894), vol. XIII, p. 371-376.

—— [A new gelatinous substance.] Bulletin, 1893 (1894), vol. XIII, p. 373-375.

U. S. Bureau of Fisheries: [Irish moss industry.] Report, 1904 (1905), p. 285-286.

White, George F., and Adrian Thomas: Properties of fish and vegetable oil mixtures. Bulletin, 1912 (1913), vol. XXXII, p. 183-198, illus. *Doc. 785 issued Feb. 18, 1914.* F14-8

BACTERIA.

Clark, A. Howard: [To prevent fish from reddening.] Bulletin, 1885 (1885), vol. V, p. 79.

Cobb, John Nathan: [Reddening of cod.] Appendix IV, Report, 1915 (1917), p. 75-79.

Farlow, William G.: On the nature of the peculiar reddening of salted codfish during the summer season. Report, 1878 (1880), p. 969-974. F20-120

—— Vegetable parasites of codfish. Bulletin, 1886 (1887), vol. VI, p. 1-4. F18-521

—— [Vegetable parasites on codfish and salt pork.] Bulletin, 1886 (1887), vol. VI, p. 318.

Lawrence-Hamilton, J.: Foul fish and filth fevers. Bulletin, 1893 (1894), vol. XIII, p. 311-334. *Doc. 269 issued 1894.* F12-183

Layet, Alexandre: Experimental hygiene—Observations on the red flesh of the codfish. Bulletin, 1887 (1889), vol. VII, p. 90-95. F18-656

Mauriac, E.: Cases of poisoning caused by spoiled codfish, and the unnecessary prohibition of the sale of reddened codfish. Report, 1886 (1889), p. 1027-1053. F17-151

Stevenson, Charles H.: [Reddening of salted cod.] Bulletin, 1898 (1899), vol. XVIII, p. 399.

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FISH.

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- Atwater, Wilber Olin:** [Menhaden and other fish and their products as related to agriculture.] Report, 1877 (1879), p. 194-226.
- Report of progress of an investigation of the chemical composition and economic values of fish and invertebrates used for food. Undertaken for the United States Fish commission. Report, 1880 (1883), p. 231-285 incl. tables. F16-273
- Tables illustrative of the nutritive value of fish. Bulletin, 1884 (1884), vol. IV, p. 203-205. F13-97
- Report of analysis of a sample of fish guano made from salmon offal, by Mr. Joseph Spratt, of Victoria, British Columbia. Bulletin, 1884 (1884), vol. IV, p. 238. F13-103
- Contributions to the knowledge of the chemical composition and nutritive values of American food fishes and invertebrates. Report, 1883 (1885), p. 433-499 incl. tables. *Doc. 98 issued Aug. 16, 1886.* F11-242
- The chemical composition and nutritive value of food-fishes and aquatic invertebrates. Report, 1888-89 (1892), p. 679-868 incl. tables, 9 fold. col. diagr. *Doc. 185 issued June 2, 1892.* Agr. 3-567
- Chittenden, R. H., and George W. Cummins:** On the relative digestibility of fish flesh in gastric juice. Report, 1884 (1886), p. 1109-1122. F17-138
- Cobb, John Nathan:** Pacific cod fisheries. (Comparative analysis of Pacific and Atlantic cod: p. 76.) Appendix IV, Report, 1915 (1917), 111 p., IX pl., chart. *Doc. 830 issued Oct. 23, 1916.* F16-191
- Coker, Robert Ervin:** [Dry mussel meat as food for poultry or fish.] Bulletin, 1917-18 (1921), vol. XXXVI, p. 62.
- Fuller, Caleb Allen:** [Bacteriological analysis of shellfish from Narrangansett Bay.] Report, 1904 (1905), p. 218-236.
- Green, Erik H.:** The chemical composition of the subdermal connective tissue of the ocean sun-fish. Bulletin, 1899 (1901), vol. XIX, p. 321-324. *Doc. 449 issued Aug. 31, 1900.* F12-84
- Green, Erik H., and Ralph Winfred Tower:** The organic constituents of the scales of fish. Bulletin, 1901 (1902), vol. XXI, p. 97-102. *Doc. 496 issued May 26, 1902.* F12-272
- Kensington, Edward Thomas:** [Composition of the roe of the salmon.] Bulletin, 1884 (1884), vol. IV, p. 74.
- Composition of some of the food-fishes. Bulletin, 1884 (1884), vol. IV, p. 74-75. F18-225
- Kostytscheff, P. A.:** Chemical composition of fish products, with some remarks on their nutritive value. Report, 1886 (1889), p. 1019-1025. F17-149
- Levene, Phoebus Aaron Theodore:** Some chemical changes in the developing fish egg. Bulletin, 1899 (1901), vol. XIX, p. 153-155. *Doc. 438 issued Aug. 31, 1900.* F12-86
- Ryder, John Adam:** [Analysis of the Portuguese and common oyster.] Bulletin, 1882 (1883), vol. II, p. 319-338.
- Smith, Albert W.:** [Composition of the shell and gastroliths of the lobster.] Bulletin, 1895 (1896), vol. XV, p. 227-228
- Tower, Ralph Winfred:** The gas in the swim-bladder of fishes. Bulletin, 1901 (1902), vol. XXI, p. 125-136. *Doc. 498 issued May 23, 1902.* F12-413
- White, George F., and Adrian Thomas:** A new method for the determination of the food value of proteins, with application to *Cynoscion regalis*. Bulletin, 1912 (1913), vol. XXXII, p. 175-181, illus. *Doc. 784 issued Feb. 13, 1914.* F14-5

WATER.

- Fuller, Cabel Allen:** [Bacteriological analysis of water samples from Narragansett Bay.] Report, 1904 (1905), p. 207-218.
- Hoffman, R. E.:** Artificial sea-water for aquaria. Bulletin, 1884 (1884), vol. IV, p. 465-467. F13-76
- Kidder, J. H.:** Report upon the water supply of the Fish commission station at Woods Hole, Mass. Report, 1884 (1886), p. 215-221, illus., fold. pl. F17-124
- Memorandum on water residues from cod-hatching station at Woods Hole. Bulletin, 1885 (1885), vol. V, p. 357. F18-473
- Marsh, Millard Caleb:** [Nitrogen and oxygen content at Nashua.] Report, 1904 (1905), p. 374.
- Rathbun, Richard:** [Analysis of water of Long Island Sound.] Report, 1889-1891 (1893), p. 118-119.
- Taylor, Fred W.:** Analysis of artesian-well water from the shad-hatching station at Havre de Grace, Md. Bulletin, 1883 (1883), vol. III, p. 348. F18-145
- U. S. Bureau of Chemistry:** [Analysis of water: p. 14-15.] In Devils Lake, North Dakota, by T. E. B. Pope. Report and special papers, 1907 (1909), 22 p. Doc. 634 issued July 16, 1908.

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- The instruction of naval midshipmen in taxidermy, ichthyology, etc., at the U. S. National museum and on board the steamers of the United States Fish commission. Bulletin, 1883 (1883), vol. III, p. 239. F12-394
- On the specimens received by the Smithsonian institution from the United States Life-saving service. Bulletin, 1884 (1884), vol. IV, p. 177-178. F13-93
- Bean, Tarleton Hoffman:** List of fishes distributed by the United States Fish commission. Report, 1882 (1884), p. 1039-1044. F16-307
- Ryder, John Adam:** Directions for collecting embiotocoid fish embryos. Bulletin, 1885 (1885), vol. V, p. 32. F18-369
- Smiley, Charles Wesley:** Arrangement with the life-saving service and the light-house board for collecting whales, porpoise, sharks, and strange forms of marine life. Bulletin, 1884 (1884), vol. IV, p. 385-387. F18-343
- U. S. Bureau of Fisheries:** Distribution of duplicate sets of marine invertebrates, 1879-1886. Report, 1886 (1889), p. 843-867.

PRESERVATION.

- Bean, Tarleton Hoffman:** Directions for collecting and preserving fish. 1881, 6 p. *Doc. 30 issued 1881.* F12-211
- Directions for collecting and preserving fish. Bulletin, 1883 (1883), vol. III, p. 197-200. F12-211
- Brooks, William Keith:** [New method for preserving delicate organisms.] *Quoted by* Ryder. Report, 1888-89 (1891), p. 519.
- Figgins, J. D.:** New methods of preparing fishes for museum exhibit. Bulletin, 1908 (1910), vol. XXVIII, p. 1357-1368. *Doc. 724 issued 1910.* 10-35653
- Franklin, Dwight:** A method of preparing fish for museum and exhibition purposes. Bulletin, 1908 (1910), vol. XXVIII, p. 1353-1355, pl. CXLII. *Doc. 723 issued 1910.*
- Holder, Charles Frederick:** A plan for an educational exhibit of fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1309-1314. *Doc. 720 issued May, 1910.* 10-35651
- Lucas, Frederic Augustus:** Outline of educational exhibit of fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1341-1351. *Doc. 722 issued 1910.* 10-35678
- Miner, Roy Waldo:** A plan for an educational exhibit of fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1215-1340, pl. CXXVI-CXLI. *Doc. 721 issued May 20, 1910.*
- Ryder, John Adam:** On the preservation of embryonic materials and small organisms, together with hints upon embedding and mounting sections serially. Report, 1882 (1884), p. 607-628. *Doc. 76 issued Aug. 12, 1884.* F11-274
- Seal, William P.:** The keeping of Salmonidæ for purposes of exhibition. Bulletin, 1887 (1889), vol. VII, p. 283-285, illus. F18-676
- Tanner, Zera Luther:** [Preparation and preservation of specimens.] Bulletin, 1896 (1897), vol. XVI, p. 404-417.

TECHNIQUE.

- Crozier, William J., and Selig Hecht:** Correlation of weight, length, and other body measurements in the weakfish, *Cynoscion regalis*. Bulletin, 1913 (1915), vol. XXXIII, p. 141-147, illus. *Doc. 800 issued Sept. 17, 1914.* F14-101
- Snyder, John Otterbein:** [Diagram for taking measurements of fish.] Bulletin, 1907 (1908), vol. XXVII, p. 79, illus.

AQUARIUMS.

- Blake, William Phipps:** A report to the United States Centennial commission upon the principal aquariums abroad in 1873. Report, 1882 (1884), p. 631-640, illus. F12-308
- Forbes, S. A.:** The aquarium of the U. S. Fish commission at the World's Columbian exposition. Report of the Director. Bulletin, 1893 (1894), vol. XIII, p. 143-158. *Doc. 253 issued June 26, 1894.* F12-183

- Hoffman, R. E.:** Artificial sea-water for aquaria. Bulletin, 1884 (1884), vol. IV, p. 465-467. F13-76
- Holder, Charles Frederick:** A method of transporting live fishes. Bulletin, 1908 (1910), vol. XXVIII, p. 1005-1007. *Doc. 702 issued Apr., 1910.* 10-35427
- Norsk Fiskeritidende:** [Purifying water in glass aquariums.] Bulletin, 1886 (1887), vol. VI, p. 401.
- Reeves, I. S. K.:** Description of the fresh and salt-water supply and pumping plants used for the aquarium. Bulletin, 1893 (1894), vol. XIII, p. 159-161. *Doc. 253 issued June 26, 1894.* F12-183
- Ryder, John Adam:** [Improvements in methods of display.] Report, 1888-89 (1892), p. 521.
- Seal, William P.:** The aqua-vivarium as an aid to biological research. Report, 1883 (1885), p. 965-969. *Doc. 102 issued Aug. 16, 1886.* F11-246
- The aquarium. A brief exposition of its principles and management. Bulletin, 1887 (1889), vol. VII, p. 274-282. F11-331
- An inquiry as to the proper methods for the care of living things held for popular amusement and instruction or for purposes of biological research. Bulletin, 1887 (1889), vol. VII, p. 285-287, pl. I-II. F18-677
- Observations on the aquaria of the United States Fish commission at Central station, Washington, D. C. Bulletin, 1890 (1892), vol. X, p. 1-12, illus., IV pl. *Doc. 186 issued Feb. 11, 1892.* 7-1837

BIOLOGICAL STATIONS.

- [The American representation at the Naples Zoological station.] Bulletin, 1885 (1885), vol. V, p. 466.
- Dohrn, Anton, i. e. Felix Anton:** The zoological station at Naples, Italy. Bulletin, 1883 (1883), vol. III, p. 433-435 incl. tables. F18-166
- Evermann, Barton Warren:** [The necessity of a biological station in Florida.] Bulletin, 1897 (1898), vol. XVII, p. 207-208.
- McIntosh, W. C.:** Fish-cultural investigations at St. Andrews Marine Laboratory, Scotland. Bulletin, 1893 (1894), vol. XIII, p. 241-256. *Doc. 261 issued June 26, 1894.* F12-183
- Meek, Seth Eugene:** The utility of a biological station on the Florida coast in its relation to the commercial fisheries. Bulletin, 1897 (1898), vol. XVII, p. 181-183. *Doc. 367 issued Aug. 8, 1898.* F12-110
- Smith, Hugh McCormick:** Notes on Biscayne Bay, Florida, with reference to its adaptability as the site of a marine hatching and experiment station. Appendix 2, Report, 1895 (1896), p. 169-191. *Doc. 333 issued June 8, 1897.* F11-196
- Taylor, W. Edgar:** Establishment of a biological station on the Gulf of Mexico. Bulletin, 1897 (1898), vol. XVII, p. 185-188. *Doc. 368 issued Aug. 8, 1898.* F12-110

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GENERAL.

- Feddersen, Arthur Frederik:** Abstract of an article from the "Nordisk tidsskrift for fiskeri," 1878, entitled "Observations on fishery expositions," etc. Report, 1878 (1880), p. 43-45. F16-153

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- Ravenel, William de Chastignier:** Report of the representatives of the U. S. Fish commission at the Cotton states and international exposition at Atlanta, Georgia, in 1895. Report, 1896 (1898), p. 147-167, pl. 11-21. *Doc. 333 issued June 14, 1897.* F11-175

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- Ravenel, William de Chastignier:** The Pan-American exposition. Report of the representative of the U. S. Fish commission. Report, 1901 (1902), p. 289-351, pl. 6-20. *Doc. 508 issued Oct. 27, 1902.* F11-26

CHICAGO: WORLD'S FAIR.

- Bean, Tarleton Hoffman:** Report of the representatives of the U. S. Fish commission at the World's Columbian exposition. Report, 1894 (1896), p. 177-196, pl. 1-5. *Doc. 311 issued Nov. 30, 1896.* F11-186

CINCINNATI: CENTENNIAL EXPOSITION.

- Collins, Joseph William:** Report upon the participation of the U. S. Fish commission in the Centennial exposition held at Cincinnati, Ohio, in 1888. Report, 1888-89 (1892), p. 869-885, pl. XC. *Doc. 191 issued 1892.* F12-229

NASHVILLE: TENNESSEE CENTENNIAL EXPOSITION.

- Ravenel, William de Chastignier:** Report upon the exhibit of the United States Commission of fish and fisheries at the Tennessee Centennial exposition in 1897. Report, 1898 (1899), p. 329-339, pl. 37. *Doc. 407 issued Mar. 28, 1899.* F11-118

ST. LOUIS: LOUISIANA PURCHASE EXPOSITION.

- Ravenel, W. de C.:** The United States Commission of fish and fisheries, and its exhibit at the Louisiana Purchase exposition, St. Louis, Mo., 1904. 54 p. (Gibson, Washington.)

LONDON: INTERNATIONAL FISHERY EXPOSITION.

- Benecke, Barthold Adolph:** The results of the London Fisheries exhibition in their practical value for Germany. Report, 1884 (1886), p. 1185-1204. F18-141

- Ljungman, Axel Vilhelm:** Sweden at the great International fishery exposition at London, 1883. Bulletin, 1883 (1883), vol. III, p. 231-239. F18-128

- Lowell, James Russell:** Success of the United States exhibit at the London International fisheries exhibition. Bulletin, 1883 (1883), vol. III, p. 447-448. F18-180

- Thanks of the executive committee of the London International fisheries exhibition for the participation by the United States. Bulletin, 1884 (1884), vol. IV, p. 291-292. F18-315

- U. S. Bureau of Fisheries:** [Great International fisheries exhibition: catalogues.]

- a. Preliminary catalogue and synopsis of the collections exhibited by the United States Fish commission and by special exhibitors. With a concordance to the official classification of the exhibition. 107 p. *Doc. 54 issued May 25, 1883.* F12-291

- b. Collection of economic crustaceans, worms, echinoderms and sponges, by Richard Rathbun. 31 p. *Doc. 55 issued May 22, 1883.* F12-292

- c. Catalogue of the aquatic and fish-eating birds exhibited by the United States National museum, by Robert Ridgway. 48 p. *Doc. 56 issued May 22, 1883.* F20-140

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- e. The whale fishery and its appliances, by James Temple Brown. 116 p. *Doc. 58 issued June 14, 1883.* 8-27229

- f. Catalogue of the collections of fishes exhibited by the United States National museum, by Tarleton H. Bean. 124 p. *Doc. 59 issued June 30, 1883.* F12-295

- g. Descriptive catalogue of the collection illustrating the scientific investigation of the sea and fresh waters, by Richard Rathbun. 109 p. *Doc. 69 issued Apr. 19, 1884.* F12-296

- h. Catalogue of the aquatic mammals exhibited by the United States National museum, by F. W. True. 22 p. *Doc. 74 issued May 9, 1884.* F12-297

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- Leonard, J. A.:** Plan of the International fisheries exhibition to be held at Edinburgh, Scotland, and a list of prizes to be awarded. Bulletin, 1881 (1882), vol. I, p. 390-394. F20-128

- A report on the Edinburgh fisheries exhibition. Bulletin, 1882 (1883), vol. II, p. 80-82. F18-77

- Official papers** relating to the proposed International fisheries exhibition at Edinburgh in 1882. Bulletin, 1881 (1882), vol. I, p. 130-132. F18-29

BERLIN: INTERNATIONAL FISCHEREI-AUSSTELLUNG, 1880.

- Haack, Hermann:** A German view of the American section in the Berlin Fishery exhibition. Bulletin, 1881 (1882), vol. I, p. 57-58. F18-18
The United States exhibit at the Berlin International fishery exposition of 1880. Tr. by Herman Jacobson. 1884, p. 53-58. F16-319

FISHERY CONGRESSES.

WORLD'S FISHERIES CONGRESS, CHICAGO, 1893.

- World's Fisheries Congress, Chicago, 1893:** Report and papers of the World's fisheries congress, held at Chicago, October 16 to 19, 1893. Bulletin, 1893 (1894), vol. XIII, 462 p., illus., 41 pl. (partly col.). F12-183

Contents.—1. Report of the secretary of the general committee, by T. H. Bean. 2. Address of the chairman of the general committee on the World's fisheries congress, by M. McDonald. 3. The assimilation of the fishery laws of the Great Lakes, by G. A. MacCallum. 4. The decrease of food-fishes in American waters and some of the causes, by A. M. Spangler. 5. The sea and coast fisheries, by D. T. Church. 6. Our ocean fishes and the effect of legislation upon the fisheries, by J. M. K. Southwick. 7. The past, present, and future of trout-culture, by W. L. Gilbert. 8. The relation of scientific research to economic problems, by G. B. Goode. 9. Biological research in relation to the fisheries, by J. A. Ryder. 10. On the influence of light on the periodical depth-migrations of pelagic animals, by J. Loeb. 11. The investigation of rivers and lakes with reference to the fish environment, by B. W. Evermann. 12. The habits and development of the lobster, and their bearing upon its artificial propagation, by F. H. Herrick. 13. The origin of the food of marine animals, by W. K. Brooks. 14. Atmospheric and other influences upon the migration of fishes, by J. J. Armistead. 15. Some observations concerning fish parasites, by E. Linton. 16. On the food of the menhaden, by J. I. Peck. 17. Some plankton studies in the Great Lakes, by J. E. Reighard. 18. The aquarium of the United States Fish commission at the World's Columbian exposition, by S. A. Forbes. Description of the fresh and salt water supply and pumping plants used for the aquarium, by I. S. K. Reeves. Observations and experiments on Saprolegnia infesting fish, by G. P. Clinton. Report on a parasitic protozoan observed on fish in the aquarium, by C. W. Stiles. 19. Opening remarks of the chairman of the fish-cultural section of the Fisheries congress, by E. G. Blackford. 20. Statistical review of fish-culture in Europe and North America, by N. Borodine. 21. Some notes about American fish-culture, by O. Nordqvist. 22. Fish-culture in Michigan, by H. Post. 23. History and methods of whitefish culture, by F. N. Clark. 24. Methods employed at Craig Brook station in rearing young salmonoid fishes, by C. G. Atkins. 25. The propagation of black bass in ponds, by W. F. Page. 26. Fish and fishing in British Guiana, by J. J. Quelch. 27. Fish-cultural investigations at St. Andrews marine laboratory, Scotland, by W. C. McIntosh. 28. Description of the marine hatchery at Dunbar, Scotland, by T. W. Fulton. 29. The past, present, and future of the oyster industry of Georgia, by A. Oemler. 30. Deep-water oyster culture, by H. C. Rowe. 31. Breeding natural food artificially for young fish artificially hatched, by A. N. Cheney. 32. What we know of the lobster, by F. Mather. 33. Remarks on the maintenance and improvement of the American fisheries, by H. M. Smith. 34. Reforms and improvements suggested for the fisheries of Great Britain and Ireland, by J. Lawrence-Hamilton. 35. Foul fish and filth fevers, by J. Lawrence-Hamilton. 36. Recent experiments in sturgeon hatching on the Delaware River, by B. Dean. 37. The fisheries of Canada, by L. Z. Joncas. 38. The fishing industry of Lake Erie, past and present, by C. M. Keyes. 39. The fisheries of the Virginia coast, by J. T. Wilkins. 40. Notes on the Irish mackerel fisheries, by W. S. Green. 41. Past and future of the fur seal, by J. Stanley-Brown. 42. Notes on the fisheries and fishery industries of Puget Sound, by J. G. Swan. 43. Fish nets: some account of their construction and the application of the various forms in American fisheries, by C. H. Augur. 44. Statistics of the fisheries of the United States, by H. M. Smith. 45. The fisheries of Japan, by the Japanese Bureau of Agriculture. 46. On pearls, and the utilization and application of the shells in which they are found in the ornamental arts, as shown at the World's Columbian exposition, by G. F. Kunz.

NATIONAL FISHERY CONGRESS, TAMPA, 1898.

National Fishery Congress, Tampa, 1898: Proceedings and papers of the National fishery congress, held at Tampa, Florida, January 19-24, 1898. Bulletin, 1897 (1898), vol. XVII, p. 145-371, illus., pl. 10-31. F12-110

Contents.—Proceedings of the congress. Methods of plankton investigation in their relation to practical problems, by J. Reighard. The importance of extended scientific investigation, by H. C. Bumpus. The utility of a biological station on the Florida coast in its relation to the commercial fisheries, by Seth E. Meek. Establishment of a biological station on the Gulf of Mexico, by W. E. Taylor. Some notes on American shipworms, by C. P. Sigerfoos. An economical consideration of fish parasites, by Edwin Linton. The fish fauna of Florida, by B. W. Evermann. The lampreys of central New York, by H. A. Surface. The protection of the lobster fishery, by F. H. Herrick. The Florida commercial sponges, by H. M. Smith. On the feasibility of raising sponges from the egg, by H. V. Wilson. The Hudson River as a salmon stream, by A. N. Cheney. A plea for the development and protection of Florida fish and fisheries, by J. A. Henshall. International protection for the denizens of the sea and waterways, by B. W. James. The restricted inland range of shad due to artificial obstructions and its effect on natural reproduction, by C. H. Stevenson. The green turtle and the possibilities of its protection and consequent increase on the Florida coast, by Ralph M. Munroe. Some factors in the oyster problem, by H. F. Moore. The oyster grounds of the west Florida coast: their extent, condition, and peculiarities, by F. Swift. The oysters and oyster beds of Florida, by John G. Ruge. The Louisiana oyster industry, by F. C. Zacharie. The oyster-bars of the west coast of Florida: their depletion and restoration, by H. A. Smeltz. Notes on the fishing industry of eastern Florida, by J. Y. Detwiler. Oysters and oyster-culture in Texas, by I. P. Kibbe. The methods, limitations, and results of whitefish culture in Lake Erie, by J. J. Stranahan. A brief history of the gathering of fresh-water pearls in the United States, by G. F. Kunz. The red snapper fisheries: their past, present, and future, by A. F. Warren. Some brief reminiscences of the early days of fish-culture in the United States, by L. Stone. The relations between State fish commissions and commercial fishermen, by W. E. Meehan. Possibilities for an increased development of Florida's fishery resources, by J. N. Cobb. The utility and methods of mackerel propagation, by J. P. Moore. The large-mouthed black bass in Utah, by John Sharp. Florida fur-farming, by J. M. Willson, jr. Index.

INTERNATIONAL FISHERY CONGRESS, FOURTH, WASHINGTON, 1908.

International Fishery Congress, Fourth, Washington, 1908: Proceedings of the Fourth International fishery congress: Organization and sessional business, papers, and discussions. Held at Washington, U. S. A., September 22 to 26, 1908. Bulletin, 1908 (1910), vol. XXVIII, 2 parts, illus., CLVI pl. (partly col. 2 fold.). 11-5437

Contents.—Pt. 1. Organization and sessional business. International regulations of the fisheries on the high seas [3 papers], by O. T. Olsen, C. E. Fryer, C. H. Stevenson. Work of the International fisheries commission of Great Britain and the United States, by D. S. Jordan. Some reasons for failure of fish protective legislation and some suggested remedies, by O. M. Dennis. National aspects of angling and the protection of game fishes, by H. W. Perce. Sport fishing in California and Florida, by C. F. Holder. Lobsters and the lobster problem in Massachusetts, by G. W. Field. A method of lobster culture, by A. D. Mead. Sea mussels and dogfish as food, by I. A. Field. The wholesomeness of oysters as food, by H. C. Rowe. Effects of menhaden fishing upon the supply of menhaden and of the fishes that prey upon them, by W. E. Hathaway. Effects of the menhaden and mackerel fisheries upon the fish supply, by W. C. Kendall. An improved and practical method of packing fish for transportation, by A. Sölling. A process for preserving the pearl-oyster fisheries and for increasing the value of the yield of pearls, by J. I. Solomon. Fur seals and the seal fisheries, by C. H. Townsend. Economic conditions of the fisheries in Italy, by Guido Rossati. The fisheries and the guano industry of Peru, by R. E. Coker. The fisheries of China, by Wei-Ching W. Yen. The fisheries of Japan, from a geographical standpoint, by T. Kitahara. Gold fish and their culture in Japan, by Shinnosuke Matsubara. Commercial sponges and the sponge fisheries, by H. F. Moore. The abuse of the scaphander in the sponge fisheries, by Ch.

Flégel. A practical method of sponge culture, by H. F. Moore. Sponge culture, by Jules Cotte. Experiments in the artificial propagation of fresh-water mussels, by George Lefevre and W. C. Curtis. A plan for promoting the whitefish production of the Great Lakes [3 papers], by S. W. Downing, F. N. Clark, Paul Reighard.

Pt. 2. Fish-cultural practices in the Bureau of Fisheries, by J. W. Titcomb. A new principle of aquiculture and transportation of live fishes, by A. D. Mead. Method of cultivating rainbow trout and other Salmonidæ, by C. L. Paige. Possible expansion of shad-hatchery work, by S. G. Worth. The comparative value of foods for rainbow trout and other salmonoids, by C. L. Paige. Apparatus and methods employed at the marine fish hatchery at Flödevig, Norway, by G. M. Dannevig. The utility of sea-fish hatching, by G. M. Dannevig. Propagation and protection of the Rhine salmon, by P. P. C. Hoek. Fishes in their relation to the mosquito problem, by W. P. Seal. Foods for young salmonoid fishes, by C. G. Atkins. Fresh-water shrimp, a natural fish food, by S. G. Worth. The cultivation of the turbot, by R. Anthony. The treatment of fish-cultural waters for the removal of algæ, by M. C. Marsh and R. K. Robinson. Notes on the dissolved content of water in its effect upon fishes, by M. C. Marsh. Cause of disease in young salmonoids, by Eugene Vincent. Radical prevention of *Costia necatrix* in salmonoid fry, by Johann Franke. Treatment of fungus on fishes in captivity, by L. B. Spencer. Methods of combating fungus on fishes in captivity, by C. F. Holder. A new method of combating fungus on fishes in captivity, by Paul Zirzow. Eighteen months' experience with a disease of brook trout, by Albert Rosenberg. American fishes in Italy, by Giuseppe Besana. Acclimatization of American fishes in Argentina, by E. A. Tulian. The introduction of American fishes into New Zealand, by L. F. Ayson. Naturalization of American fishes in Austrian waters, by Franz von Pirko. Causes of degeneration of American trouts in Austria, by Johann Franke. New and improved devices for fish culturists, by A. E. Fuller. A device for counting young fish, by R. K. Robinson. A method of transporting live fishes, by C. F. Holder. A method of measuring fish eggs, by H. von Bayer. An improvement in hatching and rearing boxes, with notes on continuous feeding of the fry of Salmonidæ, by G. E. Simms. Devices for use in fish hatcheries and aquaria, by Eugene Vincent. New methods of transporting eggs and fish, by W. S. Kincaid. Fishways, by H. von Bayer. A plea for observation of the habits of fishes and against undue generalization, by Theodore Gill. The habits and life history of the toadfish (*Opsanus tau*), by E. W. Gudger. Methods of studying the habits of fishes and recording their life histories; with an account of the breeding habits of the horned dace, by Jacob Reighard. A method of observing the habits and recording the life histories of fishes, by C. F. Holder. Effects of changes in the density of water upon the blood of fishes, by G. G. Scott. Internal parasites of the Sebago salmon, by H. B. Ward. Notes on the flesh parasites of marine food fishes, by Edwin Linton. Structure and functions of the ear of the squeteague, by G. H. Parker. An intensive study of the fauna and flora of a restricted area of sea bottom, by F. B. Sumner. Development of sponges from tissue cells outside the body of the parent, by H. V. Wilson. Gases dissolved in the waters of Wisconsin lakes, by E. A. Birge. Volumetric studies of the food and feeding of oysters, by H. F. Moore. A plan for an educational exhibit of fishes [2 papers], by C. F. Holder and R. W. Miner. Outline for an educational exhibit of fishes, by F. A. Lucas. A method of preparing fish for museum and exhibition purposes, by Dwight Franklin. New method of preparing fishes for museum exhibit, by J. D. Figgins. The United States Bureau of Fisheries: its establishment, functions, organization, resources, operations, and achievements, by H. M. Smith. General index.

Part 13.—UNCLASSIFIED

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- Baird, Spencer Fullerton:** Purchase of Professor Poey's *Ichthyologia Cubana* by the Spanish government. Bulletin, 1883 (1883), vol. III, p. 439. F18-169
- Boeck, G.:** How to strengthen the dunes. Bulletin, 1885 (1885), vol. V, p. 38-40. F18-374
- Ffennel, Henry:** [What fish sometimes swallow.] Bulletin, 1885 (1885), vol. V, p. 78. F18-374
- Garman, Samuel:** In regard to the "sea-serpent" of literature. Bulletin, 1884 (1884), vol. IV, p. 128. F18-246
- Hanna, S. W.:** Description of an eel-like creature taken in a net at New Harbor, Maine, in 1880. Bulletin, 1883 (1883), vol. III, p. 407-410, illus. F18-153
- Hartung, G.:** An account of the Loffoden Islands of Norway. Report, 1877 (1879), p. 559-564. F16-109
- Herndon, C. G.:** Sanitary report on old Providence Island, United States of Colombia. Bulletin, 1884 (1884), vol. IV, p. 412-414. F18-352
- Johnson, George A.:** A mud slough on the Grand Banks. Bulletin, 1885 (1885), vol. V, p. 291-292. F18-444
- Kidder, Jerome H.:** Hints for emergencies. Prepared for the use of field parties of the United States Fish commission. [1877.] F11-208
- The Bower-Barff rustless iron. Bulletin, 1885 (1885), vol. V, p. 151-154. F18-394
- Magie, William Francis:** [Report upon atmospheric electricity.] Bulletin, 1889 (1891), vol. IX, p. 408-410.
- Marquette, George R.:** Extraordinary floods in the Potomac River. Bulletin, 1881 (1882), vol. I, p. 258. F18-46
- Michigan, State Board of Fish Commissioners:** Minute upon the death of Oren M. Chase, George W. Armstrong, and Charles H. Brownell. Bulletin, 1884 (1884), vol. IV, p. 83-85. F18-231
- Morris, Alfred:** [A sea-monster.] Bulletin, 1885 (1885), vol. V, p. 78-79.
- Proctor, Richard Anthony:** A marine monster. Bulletin, 1884 (1884), vol. IV, p. 55-56. F18-218
- Monster sea-serpents. Bulletin, 1885 (1885), vol. V, p. 325-328. F18-466
- Reighard, Jacob Ellsworth:** The photography of aquatic animals in their natural environment. Bulletin, 1907 (1908), vol. XXVII, p. 41-68, illus., pls. *Doc. 635 issued Aug. 22, 1908.* 8-35640
- Schufeldt, Robert Wilson:** Experiments in photography of live fishes. Bulletin, 1899 (1901), vol. XIX, 5 p. 9 pl. *Doc. 424 issued Dec. 13, 1899.* F12-40
- Smiley, Charles Wesley:** A list of the names and addresses of the fish commissioners of the various States of the United States, and of the superintendents of hatcheries, corrected to June 1, 1883, with some indication of the limits of the terms upon which they are now serving. Bulletin, 1883 (1883), vol. III, p. 117-122. F18-118
- A list of the names of all persons who have been appointed commissioners of fisheries of the various States of the United States, with their addresses, and the dates of their terms of service. Bulletin, 1883 (1883), vol. III, p. 123-127. F18-119
- Swan, J. G.:** [Construction of canoes made by Makah Indians.] Bulletin, 1890 (1892), vol. X, p. 19-20.
- Wilcox, W. A.:** [A vessel struck four times by a swordfish.] Bulletin, 1886 (1887), vol. VI, p. 143-144.
- [A man killed by a swordfish.] Bulletin, 1886 (1887), vol. VI, p. 411-412.

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